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INFANT WELFARE

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Infant welfare movements focus upon health. The model New Zealand Society for the Health of Women and Children, for example, "is less concerned in reducing the death rate than in improving the health" of children, "more interested in firmly establishing the all-round fitness" of new arrivals who will live than in reducing the potential deaths.

According to Newsholme, "infant mortality is the most sensitive index we possess of social welfare." This is due to the peculiar susceptibility of the infant to the smallest environmental change. The efficiency of infant welfare agencies is therefore roughly measured by the infant death-rate, which remains incidental to the more positive emphasis.

Unless supplemented by a selective eugenics which automatically eliminated inferior stocks, to directly prevent the mortality of weaker infants should involve serious dysgenic effects and a population below the maximum physical fitness. Yule '10 and Snow '11 first applied modern statistics to the quantitative measurement of natural selection. Snow followed, year by year, the mortality of children in a large series of districts, as homogeneous as consistent in order to reach purely local and transitory conditions. The death-rate differs widely from district to district, in response to many environmental factors; so that single districts with a low or high mortality for the first year might remain low or high from 2 to 5 years, the same causes affecting both periods. Thus local environments largely obscure natural selection. Snow attempted to correct this "environmental factor" by using

deaths other than those of infants born in the particular year as a measure of its stringency. With this correction, he found those districts with a high infant mortality had in general a low mortality in the second period. While several of his series are probably "inadequate for so complex and delicate a biological problem as that of selective mortality," says Harris, "those series of data which biologically and statistically may be regarded as most suitable and trustworthy evidence are the most strongly in favor of the selective nature of infantile mortality." Harris concludes, natural selection in the form of a selective death-rate is strongly operative in the early years, and the evidence of biometric workers seems fairly "conclusive."

Mortality is differential, those that die, in general, differing in "their capacity to withstand the pressure of their environment," not random samples of the infant population. Laughlin, for example, found the mortality of 3,227 children in 701 normal families only 8.3%, the mortality of 4,640 children of 1,054 subnormal families, 17.4%. This suggests for infants born into subnormal families a great handicap in the struggle for survival, a ratio of 2:1 with normal families. 645 children with insane, feeble-minded, epileptic or alcoholic grandparental types, showed a mortality of 20.6%; 1,242 children with such parental types, a mortality of 20.1%; 2,322 children with similar fraternal types, a mortality of 15.9%; 414 children of tuberculous families, of 15%. To the child born into a normal family, chances of survival are 11:1; a family with alcoholism, epilepsy or feeble-mindedness, 3:1; insanity, 5:1. This is partly through bad environments furnished by defective families, partly through "inborn inability to withstand the stress of infanthood."

On the other hand, Ashby cites 7 English towns with a high average mortality of 135 per 1,000 births, followed by an equal average mortality in years one to five; while towns of a low average mortality of 62, averaged for years one to five, but 50 deaths per 1,000. Baker followed all births and deaths of children under 5 years in New York, for a 10-year period, and found the mortality between 2 and 5 years decreased even more than under 1 year. Parker (Somerset) found indications that children belonging to families with a high infant mortality are not so well nourished. Chalmers '13 found in tenements with a high infant mortality, the mortality of children 1 to 5 years also high. But these studies either ignore local environmental factors or compare a selective infantile mortality with what may be widely differing conditions in the 4th, 3rd, 2nd and 1st years of life of the 5-year group.

Assuming the selective value of infant mortality, the present wastage in child life is so crude, many are eliminated from stronger stocks. "Today we know," says Dietrich, "that a great infant mortality is a national disaster—on the one hand because numerous economic values are created without purpose and prematurely destroyed and on the other hand because the causes of the high rate of infant mortality affect the powers of resistance of the other infants, and weaken the strength of the nation in its next generation." That approximately 100,000 children die in this country between 1 and 5 years, after successfully passing the selective period of infancy, is evidence of grave social neglect. Many healthy babies perish from preventable causes, or become physically deteriorated, their digestive organs impaired, for example, or with tubercular infection, quite apart from the enormous physiological waste to mothers. Fisher suggests children under 5 years average $1,500 in economic value. Thus a vast amount of potentiality is lost, and safer, saner methods of eugenic selection should eventually be substituted.

The 13th Census finds 10,631,364 children under 5 years, including 2,217,342 under 1 year. Statistics, 1913, for the registration area of 24 states and 42 cities in non-registration states, or 65.1%, show a mortality of 225,129 children under 5 years, 159,435 under 1 year. This would imply a loss for the entire country of over 345,000 under 5 years, including 243,000 under 1 year. In 1911-13, the deaths of infants constituted 18% of all deaths. The 1911 census bulletin estimated a rate of about 124 infant deaths per 1,000 births. This contrasts with the lowest foreign rates, 70 per 1,000 in New Zealand or Norway, 78 in Australia or Sweden.

Among the states, with complete registration of births and deaths, 1910, Rhode Island showed a mortality of 158 per 1,000 births, New Hampshire of 146, Pennsylvania 140, Maine 135, Massachusetts 131, Connecticut 127, Michigan 124. For the remaining registration states, only the ratio of deaths to 1,000 population under 1 year may be computed inaccurate because the latter is never complete. This shows Utah with a death-rate of 82.3 per 1,000 population under 1 year, Washington with 84.3, Kentucky 87.9, Montana 90.4, California 92.2, Minnesota 92.4, Ohio 115.9, Michigan 127.5, Maine 140.4, New York 143.6, Connecticut 143.7, New Jersey 148.8, Missouri 96.7, Colorado 104.5, Indiana 106.9, Wisconsin 108.0, Vermont 109.4, Pennsylvania 149.7, Maryland 152.1, Massachusetts 160.8, New Hampshire 164.9, Rhode Island 181.5. Total infant deaths numbered 4,354 in California; 1,643, Colorado; 3,342, Connecticut; 5,689, Indiana; 5,582, Kentucky;

1,734, Maine; 4,373, Maryland; 9,971, Massachusetts; 7,620, Michigan; 4,092, Minnesota; 7,077, Missouri; 812, Montana; 1,322, New Hampshire; 7,571, New Jersey; 25,059, New York; 1,394, North Carolina; 11,064, Ohio; 26,304, Pennsylvania; 1,635, Rhode Island; 916, Utah; 729, Vermont; 5,931, Virginia; 1,566, Washington; 4,997, Wisconsin. The entire 1910 group averages 127.6 deaths per 1,000 infant population; the 5 Western and Mountain states, 91; the 6 North Central states, 108; the 9 New England and Middle Atlantic, 149. Wide variation is immediately revealed. But these ratios cannot be compared with the true infantile mortality rates of foreign countries.

Statistics further show in all probability a marked reduction in infant mortality. From 1881-85 to 1906-10, the rate for Australia fell 37.6%, for New Zealand, 22.2%. In Europe, Sweden's rate decreased 32.8%, Norway, 29%; France, 24.6%; Prussia, 18.8%; Italy, 17.3%, and England (Wales), 15.8%. In England, for example, 1906-10 averaged 117 infant deaths per 1,000 births, 1906-12, with 115. 1900 showed a rate of 155 per 1,000 births; 1912, only 95.

Similar figures available in Massachusetts and Boston show decreases, 1885-1910, of 24.4% and 35.5%, especially marked during the past few years. No such figures exist for the rest of the country, although the census estimates the decrease per 1,000 infant population under 1 year, 1900-1911 as 19%. Rhode Island fell 30%; Massachusetts, 19%; New York, 19%; Maine, 23%; New Jersey, 21%; Connecticut, 17%; Vermont, 16%; New Hampshire, 13%; Michigan, 8%. The most startling decreases appear in cities. New York fell from 101.9 deaths per 1,000 births in 1913, to 94.6 for 1914, although during the five-year period 1901-05, the mortality was 167.1. This is a reduction of 43.4% in 9 years. Boston reached 99.5 deaths in the first 10 months of 1914. Cincinnati's death rate under 1 year fell from 160.2 per 1,000 in 1908 to 92.4 for 1914. Cities of 400,000 population or over in 1910, showed a decrease within the decade of 33% in Cleveland; 31%, New York; 31%, Sran Francisco; 30%, Philadelphia; 24%, St. Louis; 21%, Pittsburgh; 20%, Baltimore; 16%, Chicago; 16%, Detroit; 7%, Buffalo.

Cities also show a wide variation in mortality, even in the same counties. For example, Burnley and Nelson, similar cotton-weaving towns in Lancashire, vary as much as 60%, 1911; in Glamorganshire, Cardiff and Aberdare differ by 39%; in Yorkshire, such neighboring towns as Halifax and Dewsbury differ by 56%; in Kent, Bromley and Chatham, 65% In the United States, the mortalities for registration cities

were 94.8 per 1,000 population under 1 year for Oakland; 100.4 for Seattle; 105.3, Portland; 110.7, Los Angeles; 113.6, San Francisco; 125.0, Toledo; 126.1, Cambridge; 130.8, St. Paul; 133.0, Birmingham; 134.0, Louisville; 134.7, Denver, 134.8, Grand Rapids; 134.9, New Haven; 135.1, Nashville; 135.8,St. Louis; 139.5, Chicago; 140.0, Omaha; 140.4, Columbus; 142.4, Spokane; 144.8, Indianapolis; 145.8, Newark; 146.2, New York; 146.7, Paterson; 146.8, Dayton; 147.2, Cleveland; 149.8, Cincinnati; 153.2, Jersey City; 154.9, New Orleans; 155.3, Atlanta; 155.5, Bridgeport; 162.2, Philadelphia; 162.9, Albany; 165.5, Boston; 168.0, Worcester; 170.4, Kansas City; 172.0, Milwaukee; 173.7, Providence; 176.4, Syracuse; 179.6, Pittsburg; 180.9, Buffalo; 194.6, Washington; 204.8, Detroit; 209.6, Baltimore; 229.3, Richmond; 259.5, Fall River; 261.0, Lowell. In New York State, for example, Williams, 1913, estimates the infant mortality for cities of the first class as 105 per 1,000 births; second class (175,000-50,000), 135; third class (50,000-20,000), 120; third class (20,000-10,000), 138; third class (under 10,000), 100; or an average of 125 for the total third class.

This decline in the infant death rate has been greater than in the general death rate. From 1896-00 to 1906-10, the infant mortality of Massachusetts fell 13.1%; the general death rate, 10.5%. For 1900-1911, the 11 registration states showed a similar ratio of 14:19. On analysis, as Hibbs points out, this decline in infant mortality has exceeded the adult mortality decline, but been less than the decrease for childhood and adolescence.

Analysis of these high mortalities under 5 years shows a rapid fall in the curve of 225,129 deaths in the registration area; 159,435 were under 1 year, 33,917 at 1 year, 15,364 at 2 years, 9,498 at 3 years, 6,915 at 4 years. Moreover, the mortality of the first year shows a proportion of 43.2% less than 1 month and 28.4% less than 1 week. Koplik '14 finds 33% of deaths for the first year in the first month, and fully 73% of this mortality in the first week. Schwarz '14 finds of 1,200 deaths the first month in New York, 130 occur the first week, 38 the second, 42 the third, and 106 the fourth. Holt and Babbitt '14 found for 9,318 living births at the Sloane Hospital for Women in New York, a mortality of 1.5% the first day, 2.5% the first week, and 3.1% the first 14 days. Similarly, for the Munich University Clinic, 9,610 living births, 1911, Kerness gives a mortality of 2.5% the first 8 days. Census mortality statistics '13 show of 159,435 deaths under 1 year, 45,332 in less than 1 week, 7,751 the first day, 5,378 the second, 10,841, 3-6 days, 68,977 deaths in less than

1 month, 10,223 the first week, 7,494 the second week, 5,928 the third; in 1 month, 14,912 deaths; 2 months, 12,225; 3-5 months, 27,225; 6-8 months, 19,896; 9-11 months, 15,731.

At least 40% of such mortality among infants and a still larger proportion of deaths under 5 years, Mangold regards as strictly preventable. Rich '05, on the basis of statements by Holt, Dock, Jennings, Baker, Forchheimer, Crozer-Griffith and Morse, estimated as preventable, 44.8% of the deaths under 1 year in Michigan, 1900, and 54.9% under 2 years, 48.7% under 5 years. Fisher of Yale computed the percentage of preventability as 47 for all diseases with the median age at death under 1 year, and for other diseases of childhood, as 67.

In the United States, two important organizations dominate this phase of preventive welfare, the federal Children's Bureau, and the American Child Hygiene Association. In 1915, the Children's Bureau, with $164,640, increased its staff to 76. This bureau has studied the infant mortality of Manchester (N. H.), Brockton (Mass.), Saginaw (Mich.), and Johnstown (Pa.). The American Association, through the American Academy of Medicine, was organized 1909. Its headquarters are in Baltimore with a total of 721 members. Through its 128 affiliated organizations in 68 cities, 28 states, it affords a real network of centers of influence. Among its committees may be mentioned those on Vital and Social Statistics, directing the campaign for improved birth registration, Nursing and Social Work, with informal reports on standards, Obstetrics, investigating midwifery conditions, Pediatrics, with studies on maternal nursing, heat and other environmental factors, Public School Education, emphasizing continuation home-making schools. The Association maintains an educational campaign through publications, correspondence and a traveling exhibit, and annual meetings, Baltimore, Chicago, Cleveland, Washington, Boston and Philadelphia. The first important conference to discuss the hygiene of infancy, however, was the first International Congress of Hygiene at Brussels '76, with greater emphasis at the second, Paris, '78. A few of the more important include the National Congress for Infancy at Florence '96, the League against Infant Mortality, Paris '02, the International Congress of Milk Depots, Paris '05, the National Conference on Infant Mortality, London '06, the International Union for the Protection of Child Life, Brussels '07, a large exhibit in Berlin '08, portraying the problem of infant mortality in all its phases, a second National Conference on Infant Mortality, London '08, the German Society for the Protection of Infants, Munich '09, the third

International Congress for the Protection of Infant Life, Berlin '11, the English-Speaking Conference on Infant Mortality, London '13.

Prenatal care constitutes the first broad division of infant welfare embraced by these institutions. According to West (Children's Bureau), 1912, 39% of the deaths under 1 year, 73% under 1 month, 86% under 1 week, 95% under 1 day, were ascribed to prenatal causes, such as malformations, congenital debility, premature birth. According to Newman '06, such causes contribute to about 30% of all mortality in large urban districts, for example, in Finsbury, London, 1901-05, with 30.3%, Glasgow, 1903-04, with 32.2%, Dundee, 1905, with 34%. These include congenital malformations, premature birth, atelectasis, atrophy and debility. In England, 1911, of an infant mortality of 130 per 1,000 births, 41 died of such causes as prematurity, debility, atrophy, congenital defects, injuries at birth, starvation. Holt '09 classified the causes of 44,226 deaths under 1 year in New York, Philadelphia, Boston and Chicago, as 25.5% to congenital debility, 5.8% to congenital malformations. Koehler and Drake, in Chicago, 1911, found 24% infant mortality due to congenital defects and childbirth; the State Board of Health in Maryland, 17.1%. In a total mortality of 5,279 in the first 4 weeks, Koplik '14 found fully 2,753 (52.1%) classed as congenitally weak. These statistics also showed in Greater New York 936 deaths through instrumental interference,, the Sloane Hospital but 32 in 291.

Mortality statistics, 1913, show of 21,362 deaths under 1 day, 13,078 were from premature birth, 2,802 from injuries at birth. Of 45,332 deaths under 1 week, 21,697 were premature births; 7,394, congenital debility; 5,121, malformations; 4,657, injuries at birth. Of 68,977 deaths under 1 month, there were 26,124 premature births; 11,659, congenital debility; 7,013, malformations; 5,086, injuries at birth. Of 159,435 deaths under 1 year, 52,865 were from causes peculiar to early infancy, including 27,359 premature births, 15,839 deaths from congenital debility, 5,131 injuries at birth, while 8,813 deaths were from congenital malformations.

Holt and Babbitt '14 studied 10,000 consecutive confinements over a period of 6.5 years, 1913, at the Sloane Hospital for Women in New York. They found 253 abortions and 9,318 living births with a mortality of 3.1% in two weeks. Of these deaths, 58% were due to congenital weakness and atelectasis, the physical condition of the mother being an important factor as 56% were in poor condition, 31% in medium. But 20% of the deaths were through conditions intimately con-

nected with delivery (accidents of labor, hemorrhage, sepsis and asphyxia); and 4% to malformations and congenital diseases other than syphilis; 4% to syphilis. Similarly, of 117 deaths in 4,500 pregnancies at the Free Outdoor Maternity Clinic, New York, Schwarz '14 found within the first month, 52 deaths from prematurity, 35 from syphilis.

Holt and Babbitt further found stillbirths one of the large causes of infant mortality, there being 429, or 1.5 times the deaths from all causes for the first 2 weeks. The causes were prolonged, difficult or complicated labor (reduced by skillful obstetrics), in 45%, toxemia of pregnancy in 14%, syphilis, 9%; prematurity, 4%. The Sloane Hospital is a closed institution with every modern device. Similarly, Kerness among 10,297 confinements at the Munich University Clinic found 5.22% stillbirths in 4 years, 1911. Schwarz '14 in 4,500 pregnancies found 84 still births and 32 abortions. Of 142,280 births in New York City, 1912, stillbirths were 4.64%; of 141,765 in 1913, stillbirths were 4.65%, as compared with 4.29% at the Sloane Hospital. Similarly, in Boston the stillbirth rate, 1901-10, was 4.01; in 1911, 3.98. Of 2,084,738 German births, 1906, 3% were stillbirths.

An intensive study of 705 foetal deaths in 10,000 consecutive admissions to the Johns Hopkins obstetrical department, including an autopsy for nearly 90%, was made by Williams, 1914. Three hundred and thirty-four of the deaths were premature and 371 mature. He found syphilis the most common etiological factor, with an incidence of 26.4% (35% colored, 14% white). Three hundred and fifty syphilitic children were born, while 40 or more were probably undetected. Dystocia (following mechanically difficult labor) was found to cause 17.4%. This is due largely to pelvic abnormalities, excessive size or abnormal presentation of the child, and 50 of his 74 cases were judged preventable. Prematurity caused 7%, while all but 4 of 23 deaths (3.2%) from inanition were premature. One-half this mortality should be readily prevented, as overwork and poor nutrition in later pregnancy are important causes. Williams found toxemia (including eclampsia, nephritis and occasional rare conditions) in only 6.5% of the deaths, but estimates this might be reduced two-fifths. He found 22 deaths (3.1%) from placenta praevia, the chief preventive being good obstetrical care in preceding labors. From congenital deformities, there were 24 deaths (3.4%), and 13 (1.8%) from premature separation of the placenta, both unavoidable. While 11.2% were due to various causes. Williams concludes that 40% of the foetal mortality in his material might have been reduced. But this total mor-

tality of 7% under the exceptionally competent nursing and resident staff at Johns Hopkins implies striking mortalities in inferior institutions.

To meet this excessive mortality of the first month is essentially a problem of prenatal care. Physical disability on the part of the mother through disease or malnutrition reacts upon the foetus, whose development is profoundly affected through the blood-stream of the mother. Newman, for example, cites an investigation of 357 dead infants of the poor, Finsbury, London, which found 140 mothers (39%) with poor physique and a history of ill-health during pregnancy, of 175 infant deaths in the first trimester, 49%, of 111 deaths from immaturity, 55%. These toxemias include not only ordinary infectious diseases on the part of the mother, but more especially tuberculosis, syphilis, alcoholism, her use of drugs, or occupational, particularly metallic, poisoning, and fatigue through overwork.

The experiments of Landouzy '12 would tend to rank tuberculosis of the mother with alcohol or syphilis. He found the death rate for young guinea pigs, rabbits and dogs as high as 41.9%; while the offspring were frequently below normal weight, and the later development of the guinea pigs especially retarded. Laughlin found the mortality in 447 children of tubercular families, 15%; of normal families, 8.3%. Grunberg '12 in his critical analyses of 568 families found parental tuberculosis gave a much higher infant death-rate and more frequent under-development. The registration area, 1913, shows 2,491 infant deaths.

Nichols refers to the almost deadly certainty that the syphilitic husband will infect his wife. Finger and Landsteiner, for example, developed a syphilitic lesion by spermatic fluid from a case in the secondary stage (monkey), similarly by Uhlenhuth and Mulzer '13 (rabbits), infecting young rabbits in utero by producing the disease in the mother. The disease may be latent in either mother or child, and according to Mott, large numbers of apparently healthy infants are infected with syphilis which appears later. Fournier estimates infection before conception results in a mortality of 65% and a morbidity of 70%; after, 39% and 72%; while infection from the mother gives a mortality of 60%; from both father and mother, 85%. Foetal syphilis, Ballantyne estimates, averages 46% of the pregnancies which end disastrously, and an infantile mortality of 42%. The Report of the Medical Officer of the Local Government Board, 1913-14, estimates a total ante-natal mortality, including stillbirths, of 150 per 1,000 births, one-half of which is ascribed to syphilis. Accord-

ing to Morrow, Bennie even goes so far as to estimate 30% of the morbidity in the Children's Hospital, Melbourne, caused by syphilis, and the presence of the syphilitic factor in some 40% of the children who died. In the registration area, 1912, there were 640 deaths under one month from syphilis; in 1913, 1,894 deaths under 1 year. Jordan '13 implies 10% of the population are syphilitic. For example, Melbourne '13 made notification compulsory within an area of 10 miles radius, and proved at least .5% of the population definitely syphilitic.

Craig and Nichols '13 find the majority of cases treated in the most approved way by mercury and potassium iodide uncured, a small amount of salvarsan fails to produce permanent effects. Syphilis is positively tested by a series of Wassermann reactions, the provocative Wassermann, examination of the cerebrospinal fluid, or the luetin reaction, but Nichols in a series of 12 found any single test unreliable. Marriage of the venereally diseased should be a criminal offense, and is already prevented in five states. In the expectant mother, it is essential to recognize syphilis at the earliest moment, and subject her to appropriate anti-syphilitic treatment, although, according to Williams, not more than one-fourth present lesions from which diagnosis can be made. Unless certain, the birth of a dead child should be followed by the Wassermann test, for prenatal care must take thought of future pregnancies and insure proper treatment. Compulsory, confidential notification, as by the California State Board of Health, is essential for control. Schneider '13 in his questionnaire study of health departments in 218 cities found 14 had developed case reporting of venereal diseases, 46 cities gave a free laboratory diagnosis, 4 gave free dispensary treatment, 3 forced dangerous cases into hospitals, 1 prohibited them from food-handling places, and 2 offered hospital care to indigents. Eight cities inspected prostitutes regularly, but with unsatisfactory results, 4 relied on publicity, 1 placarding houses.

Alcohol acts as a poison to all forms of life, and is a serious "mal-adaptation." That alcohol may pass from mother to foetus was shown by Nicloux '00 by animal experiment and examination of foetal blood from the cord and placenta with alcohol given 1 hour before labor. Sullivan '99 found in Liverpool, 55.8% of the children of 120 inebriate women died under 2 years, with a progressive death-rate in the alcoholic families. At Paris, Arrivé in 402 poor working-clas families, with 1,648 conceptions, found 11.5% abortions and 3.5% premature births with alcoholic parents. The desire for alcohol is an increasingly intense force in the United States, in spite of private and social sentiment, education, legislation, and an

organized opposition rapidly growing in effectiveness. Consumption had increased from 4.08 gallons per capita in 1850 to 22.79 gallons in 1911. Similar effects result from the mother's use of such drugs as morphine, cocaine, or opium. While maternal metallic poisoning, such as arsenic, phosphorus, mercury or lead, react upon the foetus. For example, Paul '60 found in 112 pregnancies involving lead poisoning, 55 abortions, 4 premature, 4 stillborn, 36 deaths, and only 13 living.

Malnutrition of the mother similarly exerts an environmental action upon the foetus. Paton '04 found female guinea pigs well fed in pregnancy, compared with mothers on a low diet, gave birth to much finer, healthier young, with 31% greater average weight. Prochownick has shown by a series of 48 cases the possibility of reducing the size of infants by dieting the mother. Newman, for example, cites an investigation of 357 dead infants, Finsbury, in which 5% of the mothers showed marked poverty and insufficiency of food.

Malnutrition implies fundamental social reforms, but direct remedial efforts are well isolated. Charlottenburg, Germany, for example, 1912-13, furnished every needy pregnant woman with a good meal daily for 4 weeks before confinement. According to Ashby '15 many of the 200 or more infant consultations and schools for mothers in England, provide meals for expectant mothers. Best known is the St. Pancras School for Mothers, with a special dinner fund which provides simple daily dinners, slightly below cost, for mothers during the last 3 months of pregnancy, if ordered as a medical prescription. In the United States, agencies giving prenatal care most frequently coöperate with the proper relief agencies, such as the Associated Charities. Thus the Associated Charities of Washington will supply milk or other food to expectant mothers. Or pregnant mothers in families under the New York A. I. C. P. are not only referred to their Bureau of Educational Nursing for careful instructions in diet, but if necessary their Relief Bureau sends extra food. On the other hand, infant milk stations may directly furnish milk to pregnant mothers, for example, the E. M. C. Memorial Infant Welfare Station, La Salle (Ill.), the Syracuse Infant Welfare Association '14, or the Children's Aid Association of Indianapolis.

Industrial overstrain and hard work may indirectly injure the foetus through the pregnant mother. Knox estimates that more than half our pregnant women are overtired, particularly in rural and factory sections. The Thirteenth Census found female industrial workers 19.5%; particularly in the hosiery and knit goods industry, 64.5%; women's clothing,

63.3%; confectionery, 58.1%; silk goods, 57.1%; men's clothing, 55.5%; druggists' preparations, 51.3%; canning and preserving, 49.8%; tobacco manufacturing, 46.5%; woolen goods, 41.3%; cotton goods, 38.7%; boots and shoes, 33.3%. Among valuable investigations in this field may be noted those by the Massachusetts Bureau of Labor Statistics '84 and the United States Commissioner of Labor '89 and '95-'96; more recent investigations by the Bureau of Labor Statistics, for example, Obenauer's studies of Maryland, California, the District of Columbia, and Chicago; by the Woman's Department of the Minnesota Bureau of Labor; by Consumers' Leagues, as in Oregon; the Kentucky '11 commission to investigate the conditions of working women; Missouri's Senate Wage Commission; the Massachusetts Minimum Wage Commission; the Industrial Welfare Commission of Oregon; the Ohio, Wisconsin, Washington Industrial Commissions; or the New York Factory Investigation Commission and similar commissions in Connecticut, Indiana, Michigan and Ohio.

Physiological handicaps make women more subject than men to the new industrial strain, a susceptibility which is increased during the child-bearing period. According to Keir, 156 women in the cotton mills are ill for every 100 men. In European cotton mills, Schuler and Burckhardt found the relative morbidity in spinning rooms, 128:100, in weaving rooms, 139:100. Records of the German sickness insurance societies 1888-1907, show an average of 23.4 days sick for women, 18.5 for men; and a similar report by Swiss mutual insurance societies, 1903, women 32.46 days and men only 23.55.

Industrial strain is far more complex than accidents from machinery or materials, injuries from toxic substances, fumes, excessive dust, extremes of temperature, or other unsanitary conditions. At present work in mines is forbidden women in 17 states, in saloons by 14 states, while 3 states forbid women from cleaning moving machinery. Goldmark calls attention to incidents of industrial work detrimental to the reproductive system, such as overstrain from excessive speed and complexity, prolonged standing, and the absence of a monthly day of rest. The needle trades, for example, are characterized by noise, speed, excessive hours and great irregularity; the textile industry through improved equipment, adds complexity; the canneries, for example, combine speed and monotony; shoe manufacturing involves the minutest subdivision, in rapid mechanical rhythms; the electric lamp industry is characterized by minuteness of work and extreme speed. Abuse of the piece-work system results in a speed and intensity for-

merly unknown. Keir suggests the total result of long standing or sitting in one attitude may be organic disturbances, such as make child-bearing dangerous. In long standing, as compared with men, the bones of ankle and feet are too small, the knee less adapted, the leg muscles with a shorter purchase, thus throwing the strain upon the back and tending to congestion about the hips, particularly as 49.3% such women '00 were under 25 years. According to Keir, the uterus may be crowded out of place or congested, menstruation become irregular and difficult. He estimates 40% of former factory girls, now married, are treated for pelvic disorders before 30. He concludes, "lifelong malnutrition added to pelvic deformities acquired by work is a serious drawback to the motherhood of the working woman." Broggi '05 similarly found the average fecundity of 172,365 Italian working women only 45 per 1,000, of Italian women, 120. Present regulation is based on "toleration within limits." Arizona alone '13 forbids the work of women "in any capacity in which they must remain standing constantly." To be sure, only 4 states '15 (Idaho, Mississippi, Nevada, New Mexico) failed to require suitable seats for females in at least mercantile establishments, the majority extending to manufacturing and mechanical, and several states to practically all employments (Arizona, Arkansas, California, Kentucky, Louisiana, Missouri, Montana, Ohio, Pennsylvania, Texas, Washington and West Virginia). Because impossible of enforcement, such laws are of little real import. Nearly all states, however, require sanitary and separate toilets for women workers; about a third make provision for women's dressing rooms.

As regards hours of labor, a Royal Canadian Commission '07, for example, on medical investigation, found the strain in telephone service so excessive as to recommend a maximum of 6 hours. The average for the United States is 8.5 hours. Moreover, with 225 calls per hour regarded as the breaking point, Goldmark found overloading in excess of 275 per hour in such exchanges as Birmingham, Kansas City, Los Angeles, San Francisco and Seattle. The Federal investigation of wage-earning women and children, similarly found 56.4 hours a week in miscellaneous manufactures in Chicago, 55.5 in New York, 53.3 in Philadelphia, 53 in Baltimore. In general, California and the District of Columbia alone require a 48-hour week for women; and there are but 4 eight-hour states, Arizona, California, Colorado, District of Columbia and Washington. States requiring less than 10 hours are Arkansas, Idaho, Maine, Minnesota, Missouri, Montana, Nebraska, New York, Oklahoma, Oregon, Texas and Utah. Most states fail

to set a legal closing hour as an aid to enforcement. In only about a third of the statutes, 1915, were there exceptions to the general tendency to do away with overtime work. Such exceptions cover violations. Butler '09, for example, found the employes of 34 Baltimore stores, 68.57% female, worked 60-80 hours a week in the holidays, over 51-59 hours. The Federal investigation of wage-earning women similarly found the average overtime of selected workers in New York, 17.3 weeks; Philadelphia, 16.6; Chicago, 13.5; Baltimore, 13, and noted a marked growth in minor ailments among girls after overtime periods. Massachusetts and New York '13 have effective rest-day legislation, 1 day in 7, for factories and mercantile establishments, but similar laws in California and Connecticut are nullified by exempting "any case of emergency." Kansas, Ohio and Wisconsin now empower their industrial commissions to fix hours, California and Oregon to lower hours.

The backwardness of America in forbidding night work by women is in striking contrast to Europe. Its serious moral and physical dangers have been shown by a series of investigations '01 under the International Association for Labor Legislation; for example, excessive fatigue through lack of proper sleep, tendencies towards tuberculosis, anemia, etc., through lack of sunlight, increased liability to strain and accident, and interference with normal home life. This Association '06 in Berne drew up an international convention to provide at least 11 consecutive hours of rest at night, including 7 hours between 10 P. M. and 5 A. M., with the 14 leading European powers as signatories, practically all of whom had enacted legislation by 1912. Federal official reports '11, for example, show outrageous duration of night work in New York binderies, in New York laundries by the New York Department of Labor. The Federal investigation of 59 North Carolina cotton mills '10, showed 31 operated by night, by 848 women and children (only 874 men); of 36 South Carolina mills, 5 at night, by 188 (only 155 men). Goldmark '10 found night telephone operators working 9 hours in Dallas and New Orleans, 12 in Kansas City, 15 in Springfield (Mo.). Only Connecticut, Indiana, Massachusetts, Nebraska, New York, Oregon, Pennsylvania and South Carolina forbid night work. None of these is an inclusive prohibition, the South Carolina law applying only to stores, for example, Indiana, only to factories. A small group of states shorten night work, Maryland, for example, limiting a 10-hour day to 8 hours.

The physical incapacities of women and their usual reluctance to undertake a thorough apprenticeship, generally relegates

them to unskilled, low-paid processes, with the additional handicaps already described. Butler's study '10, for example, of women in 400 Pittsburgh establishments, found only 31% operating and 14% tending machines, 14% wrapping and labelling, 23% at work requiring dexterity only, and 16% not even that; three-fifths earned less than $7 a week, though more than one-tenth lived apart from their families. The New York Factory Commission '15 found of 57,000 girls and women in stores and factories, 1913-14, 60% earned less than $8 in a typical week. Persons' study '15 of woman's wages in the United States concludes that 75% of female wage-earners receive less than $8, 50% less than $6, 15% less than $4, with wages further reduced approximately 20% through lost time and unemployment. Yet the concensus of expert opinion, according to Woolston '15, is that $8 is the minimum weekly wage under urban conditions for a self-supporting woman. The Massachusetts Minimum Wage Commission, for example, 1914, found $8.28 the minimum weekly budget in Boston, for little more than the cost of physical necessities; similarly, the Oregon Social Survey '12 found the minimum yearly budget in Portland, $545.

This industrial strain apparently reacts in a heightened infant mortality. Roughly, the mortality is abnormally high in the cotton mill and textile towns of Biddeford (Me.), Fall River, Holyoke, Lawrence, Lowell, or New Bedford. In England, the Registrar-General points to the high mortality of textile, pottery and mining districts. Reid '08 in Staffordshire found an infantile mortality of 187 per 1,000 births in 5 towns with 12% or more married women employed, of 153 in the 13 towns employing 6-12%, and of 140, in the 8 towns with less than 6% employed. Comparing two groups of families in similar environment, Reid over a period of 30 years found the infant mortality of the pottery towns exceeded other towns by 28%; while a study '08 of 5,000 infants under 1 year in the artisan class of the pottery towns showed an infantile death-rate 43% higher among factory mothers. Similarly, Newman, 1896-1905, found an average infant mortality of 182 per 1,000 births for 8 textile towns with 26.5% of the married women in occupations, and an infant mortality of only 150 in 8 towns with but 7.4% engaged. In Dundee, with very bad conditions of female labor, 1902-04, the infant mortality was 175 per 1,000, in Paisley, with far superior conditions, but 128. Goldmark cites an infant mortality in Bradford of 160 per 1,000 births, among working mothers, 40.8 among non-working. The medical officer of Kearsley points out, as the town developed into a manufacturing town, the

infant mortality rose from 143 to 229 per 1,000 in 1904, with a stationary general death-rate. As Blagg concludes, "statistics abundantly prove that the kind of occupation in the district does affect the infant mortality rate." The occupations of 31% of the married women in Wood Green, 1903-07, for example, with a mortality of only 98, differ from those of the 17.5% employed in Tunstall, with 203 infant deaths per 1,000 births, or the 21.6% employed in Farnworth, with 211 infant deaths.

On the other hand, Phelps in his Massachusetts study '12 found such factors in infant mortality as a high proportion of foreign-born, a high female illiteracy, and a high birth rate, constant over large areas, but the factor of woman's employment associated very uncertainly. Nor is the proportion of pregnant mothers employed sufficient to account directly for the high mortality of industrial cities. Hibbs '10 found only 5.6% of 1,810 Boston mothers had been employed during the pregnancy or infancy of the child. The Bureau of Labor's report on women wage-earners found in the men's ready-made clothing industry only 9.9% of the married women with children under 3 years; in the glass industry, only 14.1%; in the silk industry, 17.3% in the textile industries of New England and the Southern States, 19%. Indirectly, the Massachusetts census '05 showed only 11.1% of 573,673 mothers with children in gainful occupations.

Nor are differences in the mortality rates always sufficient to show a direct relationship. In Birmingham (England) '11 (St. Stephen's and St. George's wards), 1,657 of 3,777 mothers visited in 1908-10 were in gainful occupations, with a mortality of 179 per 1,000 births, and among the non-employed, 169 infant deaths per 1,000. Duncan '12 similarly showed in Birmingham that other factors than employment are operative, for of 1,276 mothers, 731 industrially employed, the infant death-rate for the non-employed was 161, for the employed 153 (although 167 for factory mothers). The Bureau of Labor's investigation, through Verrill, of 580 infant deaths in Fall River, although 45.9% of the mothers were employed outside the home during pregnancy, failed to find that the work of the mother in the cotton mill before childbirth was producing results noticeably different from the work (housework) of other mothers at home. The two classes, mothers at work and at home, are "not sharply defined," and mothers at home include "a considerable number of women who were formerly engaged in millwork and whose physical condition may still be affected in some degree by such earlier employment." Of the children of "mothers at housework

only," 54% were reported "not well and strong at birth;" of "mothers at millwork," 53%, which suggests "if there is an injurious effect of millwork, there must also be in many of these cases an effect almost in the same degree injurious resulting from the work at home."

An investigation in London by the Christian Social Union, for example, found the majority of married women employed as charwomen, etc., worked to confinement. Verrill's Fall River study showed 9% of the employed women worked until less than 2 weeks of confinement; 21% until a month; but a much larger proportion of women continued work in the home very close to confinement. The Johnstown survey '13 of 1,551 mothers, found 1,350 relinquished no household duties until the day of confinement. Newman cites in Finsbury, London, a study of 357 dead infants, which showed the mothers of 12% occupied in very hard work during pregnancy, 20% of 175 infants dying in the first trimester, and 24% of the 11 infants dying from immaturity. A similar investigation in Dundee '05 of 364 infant deaths, found 13.2% of the mothers worked at the factory to within a week of childbirth. A Paris study (S '13) showed the children of women working until confinement in a standing position weighed 5 pounds, 8 ounces, but of mothers ceasing work 8 weeks previous, 6 pounds, 5 ounces. Members of the German maternity benefits '13 working until 2 weeks before confinement, revealed 3.2 stillbirths, 5.5 complicating diseases, 5.5 miscarriages; but those ceasing work 2 months previous, only 2.5 stillbirths, 2.1 complicating diseases, 2.3 miscarriages. Similarly Pinard found the average weight of 500 infants whose mothers worked to the day of confinement, 3,010 grams; 500 with mothers spending 10 days in a prematernity home, 3,290 grams; 500, spending more than 10 days, 3,366 grams.

To remedy such conditions, Connecticut forbids the employment of women "within 4 weeks previous to confinement;" Massachusetts and Vermont, 1912, within 2 weeks previous. Germany, for example, provides for 2 weeks, France permits 4 weeks before delivery, Switzerland (Berne) requires 4 weeks before confinement, Portugal forbids labor the last 30 days, Spain permits cessation, and Italy requires a month for rice field workers, while Servia requires 6 weeks and Greece 8 weeks. France, for example, grants 35 days with salary to staffs of the Department of Posts, Telegraphs, Telephones, and both France and Austria grant teachers leave for 2 months with full treatment.

No American state has yet recognized the justice and necessity of furnishing maternity benefits among the working classes

during such enforced idleness, for the extra expenses of confinement and the income loss. The sick-benefit insurance laws of Germany, on the other hand, affect 94.4% of the population. The revised codes '11 provides maternity benefits (or hospital treatment) amounting to half the daily wage for 8 weeks (6 following confinement) to women insured under the law. In rural districts maternity insurance is provided for at least 4 weeks. A physician or midwife may be furnished at confinement or earlier, and the nursing be extended to 12 weeks after confinement. Women in gainful occupations earning less than $620 are compelled to insure themselves, contributing two-thirds, the employer one-third, to the extent of 2%-3% of their wages. The protection is therefore insufficient. In Austria, maternity benefits carry 60% of the current wages for women workers, for medical treatment and 4 weeks. Sick insurance is here compulsory for those earning less than $487 in industry, building trades or railroads, and voluntary for home and agricultural workers, workers paying two-thirds, employers, one-third. Norway pays 60% of the wage for 6 weeks, with a physician or midwife if necessary, and compels the insurance of all wage-earners under $321. In Hungary, 75% of the wage, for 6 weeks, with free medical aid, is received at confinement, domestic, commercial and industrial workers being compelled to insure themselves, paying equally with employers; but as Hungary is largely agricultural, the masses are not reached.

In Great Britain, on the other hand, a lump sum of $7.20 is paid. As Great Britain (with Russia and Roumania) also pays to the wives of insured men, this may total $14.40, with a free choice of physician. While a husband providing inadequately for his wife's confinement may be imprisoned one month. This maternity benefit would be very valuable to many non-insured women whose husbands are independent workers. The state pays 4c, women workers and employers 6c weekly, but if the wage is below $2.20, the employer alone pays. The suggestion to replace the Societies by the Public Health authorities in administering the benefit, would allow complete oversight during later pregnancy and childbirth.

Switzerland pays to the sick funds a yearly subsidy of 80c for every woman member, who receives some $4 at confinement. Sweden subsidizes sick funds which grant money at confinement for at least 2 weeks. France, however, is still forced to depend on state, municipal and private initiative. In nearly all departments of France, mutual aid societies for mothers, with dues of about 60c annually, provide, after 9 months' membership, free medical assistance in childbirth, and $2.40

for 4 weeks. In 1909, membership numbered 21,000, and 23% of the expenses were met by the dues of insured members.

The great German and English systems of maternity insurance thus provide benefits through the sick funds. Such insurance is financially stronger, because contributed to by men as well as underpaid women, and cares for the women before and after confinement. Italy, on the other hand, has develope1 a national maternity insurance fund, 1912. Employed women under 20 pay 1 lira, from 20-50, 2 lire (38.6c), of which half is paid by the employer; the state adds 10 lire ($1.93), or one-fourth the total of 40 lire ($7.72) paid each working woman at childbirth on discontinuing work 7 weeks.

In none of these schemes is there sufficient relief to cover the expenses incidental to confinement, which is therefore supplemented by public poor relief or private agencies. For example, in London, the St. Pancras School for Mothers has a Provident Maternity Club whose members lay by a small sum weekly for help in the home and extra-nourishment at confinement, the school adding a penny to every shilling. Other districts, lacking such large maternity charities, have to include insurance for medical fees. Organizations similar to the mutual aid societies of France exist in the industrial centers of North Italy, paying $4 at confinement in Milan and Turin, for xample. Many German cities subsidize private agencies for home nursing. In Berlin '11, for example, the Home Nursing Association cared for 3,000 confinements. Karlsruhe and Sebnitz have municipal maternity funds, to which city, invalidity insurance institutions and private individuals contribute, with a monthly fee of 15c, adding $5 to the sickness benefits at confinement.

Insurance is the "only basis that makes it possible for persons of small means to receive nursing without charity." Maternity insurance by a fee system, reaching families on small incomes, is a keenly felt need in the United States. In 1909, the Metropolitan Life Insurance Company, for example, commenced its free visiting nurse service to industrial policyholders, now extended throughout the country. With 1,633,-044 premium-paying female policyholders 20-40 years of age, this nursing service for maternity under an attending physician, reached 11.4 per 1,000 females at child-bearing ages, 1913; 9.6 in 1912. In 1913, 20,959 puerperal cases were cared for (18,942 white, 2,017 colored), with an average of 7 visits (8.3 in 1912). Fees from family or employer to insurance company, municipality, relief society or fraternal organization, avoid the stigma of charity.

Together with malnutrition and overwork, excessive child-

bearing reacts upon an early infantile mortality, through exhaustion of the mother. Every premature death, stillbirth or miscarriage seriously burdens a family, reducing the physical energy of the mother and involving unproductive expense, while annual births are a severe drain on the mother's system. With an interval of less than 2 years between births, Dwart '11 found in 866 Middlesborough children a mean height of 38.6 inches; with an interval of 2 to 2.5 years, 39.9 inches; with 2.5 to 3 years, 40.3 inches; with 3 or more years interval, 41.7 inches; similarly for weight, 37.2, 38.8, 39.1 and 39.4 pounds. Fiske '13 cites a list of weakened children and broken mothers through rapid child-bearing. Of the 225 mothers, the majority 30-35 years, few were in rugged health, and only 6.6% had 5 or fewer children, while 13.7% had over 10; the total mortality was 23.7%. Hamburger '07 reported a study of 1,042 laborers' families with 7,261 conceptions, with an average of 7 conceptions per marriage in working class families, with one-half dying before 16, one-sixth from miscarriages. In the middle '80's, Geissler of Saxony showed this relation between infant mortality and the interval between births in an entire population. Records of the New York Free Outdoor Maternity Clinic '10, for example, covering 2,540 births in 9 years, show, with less than 4 previous children, a mortality of 77, with 4-8 a mortality of 127, with 8 or more (294 cases) a mortality of 170 per 1,000. Hibbs, 1910-11, in a study of 1,635 Boston births, instances a mortality of 138.4 per 1,000 with intervals of one year or less between pregnancies, 147.2 with 1.5 years, 127.9 with 2 years, 128.8 with 3 years, 106.2 with 4 years. Similarly, the Johnstown survey '13 showed among 1,491 mothers, 804 infant deaths in an aggregate of 5,554 pregnancies. For the first and second pregnancies, the mortality was 108.5 per 1,000 births; the third and fourth, 126.0; the fifth and sixth, 152.8; the seventh and eighth, 176.04; ninth or more, 191.9. In greater detail, Hibbs reports the house-to-house investigation in Boston, 1910-11, of 2,061 births grouped by prenatal (diseases of early infancy and congenital malformations) and postnatal causes. He found for less than 5 previous pregnancies (1,533 births) a mortality from prenatal factors of 29.4 per 1,000; for 6-9 pregnancies (475 births) of 33.7; for 10 or more pregnancies (53 births), of 226.4 per 1,000. This is a total of 31.5 deaths per 1,000 from prenatal causes, and Hibbs is able to conclude the prenatal factor varies with the number of pregnancies. Prevention here primarily involves the intelligent removal of the causes of possible economic pressure, including advances in rural development, free trade, and other fundamental social

reforms. But, as James points out, the government should also make lawful the dissemination of knowledge of contraceptives to assist moral restraint.

To meet the excessive mortality of the first month as outlined is the problem of prental care. Within the last few years systematic prenatal work has been accepted as an essential part of municipal social welfare programs. Schwartz '13 estimates that 9 in 10 expectant mothers fail to receive prenatal care. Or West '14 says, the "absence of adequate prenatal and obstetrical care for thousands of women has become one of the most insistent of present-day problems."

Prenatal care implies the use of every available means to conserve the health of the prospective mother, and is essentially "preventive medicine as applied to obstetrics." As defined by Williams, it involves "coördination of the medical, nursing and social service resources of the hospital in the effort to obtain such treatment and supervision for the mother as will offer the greatest possible guarantee for the safe delivery of a normal child, which can be kept healthy by maternal nursing." The most popular system is a prenatal nurse controlled by a trained physician.

The first attempt to determine experimentally the advantages to mothers and infants from prenatal care "as a matter of routine throughout, as nearly as possible, the full period of pregnancy," was completed by the Committee on Prenatal and Obstetrical Care of the Women's Municipal League, Boston, over a period of 5 years, 1914. This experiment demonstrated prenatal care within the capacity of any thoroughly trained nurse, and standardized the visits to every 10 days, with 80-100 patients per nurse, more if districted. The cost was $2.61 per patient, but for the best prenatal care $5-$6 was estimated. The nurses made 12,984 visits, averaging 2-3 months, and carried 1,512 cases safely to confinement. Only 9 maternal deaths occurred, or .6%, at confinement. Miscarriages were less than .2%, with none in the last 3.5 years. Stillbirths '12 numbered but 2.7%, as compared with the usual average of 3.8%. Premature babies averaged only 1.7% of the total. There were but 4 cases of eclampsia (.2%), while 60 cases of threatened eclampsia the first year fell to 2 the fifth year. In these five years, infant mortality under 1 month was but 2.8%, for Boston proper '13, 4.3%. Not only were the infants more viable, but the birthweight increased considerably, averaging, inclusive of premature babies, 7 pounds, 11 ounces. In 1911, the New York Milk Committee began the second notable experiment in systematic care of expectant mothers, over a period of 2 years, so convincingly, the work

was later assumed by the Division of Child Hygiene. This Committee supervised 2,150 mothers for 2,102 living births, with but 3 maternal deaths. There were but 86 stillbirths, or 39.3 per 1,000, as compared with at least 47.6 for Manhattan, a reduction of 17%. There were but 60 deaths under 1 month, a rate of 28.5 per 1,000 living births, as compared with 38.2 for Manhattan, a reduction of 29.9%. In St. Louis, 1912-13, the Social Service Department of Washington University Hospital cared for 334 pregnant women, stillbirths being 13.1 per 1,000 less and infant deaths under 1 month, 6.3 less. Similarly the pregnancy clinic of the Boston Lying-in Hospital '13, according to Davis, received 1,652 new applicants from the hospital and out-patient department, with 1,869 subsequent visits; 430 were subsequently delivered in the hospital, 947 in the out-patient department. Of the 1,377 women under care of this clinic, 1,311 were discharged well, although 385 were with complications (albuminuria, 108; elevated blood pressure, 92; definite symptoms of toxemia, 62; contracted pelvis, 72; miscarriages, 2; gonorrhea, 4; syphilis, 2). Stillbirths per 1,000 living births for the clinic were but 28.9, as compared with 39.8 for Boston proper, 1913.

Having passed so positively the experimental stage, prenatal care is rapidly being standardized. A sub-committee of the New York Babies Welfare Association, for example, sugguests neighborhood district centers (or central office), such as infant welfare stations, local dispensaries or maternity clinics; classification by streets; periodic information of cases early in pregnancy; ante-partum visits by selected nurses every 10 days to supervise and instruct; personal contact with family physician; medical care where complications exist; adequate care at confinement through nursing agencies, midwife agencies or out-patient departments; coöperation with established relief agencies; systematic records, including district maps, daily reports, and case records in detail. A report at the conference on prenatal work '12, South End House, Boston, similarly suggests a permanent committee of 7; coöperative districting, with a prenatal nurse in each district; coöperation with hospitals, dispensaries, milk stations, settlements, the Instructive District Nursing Association, and the Associated Charities; no medical responsibility for the nurse, but early medical supervision every 2 weeks, preferably every week, at least in the later months; a system of conferences for expectant mothers utilizing present agencies; uniformity of records, including social and medical schedules. As yet, for example, there is no standard way of bringing pregnant women under care by systematic, possibly automatic, methods. Abroad women auto-

matically register on collecting their maternity benefits. Certain large hospitals now give regular reports, as in Baltimore, Boston, or Providence. Where the city is districted, as in New York, Boston or Richmond, a house-to-house canvass is sometimes made. Eventually notice of pregnancy may be required by health authorities. On the other hand, there is already a striking uniformity in the instructions given by the nurse. The Instructive District Nurse Association, Boston, issues a printed set of instructions. In Cleveland '14 a committee of superintendents of nurses in the Babies Dispensary and Bureau of Child Hygiene, maternity dispensaries and Visiting Nurse Association, have uniform methods in teaching prenatal care for all public health nurses. According to West, prenatal nurses "advise regarding diet, clothing, fresh air and exercise, baths, daily bowel movements, avoidance of alcoholic drinks, avoidance of heavy and taxing labor leading to fatigue, care of the breasts, the special importance of maternal nursing, and also regarding the preparation for confinement, and the clothing for the baby." When necessary, they urge the necessity for medical care. For example, of 29 agencies, the nurses of 10 make urine analyses.

Williams would conduct prenatal care primarily from a properly equipped and supported dispensary. Prenatal nurses with obstetrical experience and training in social service should work with trained medical men. The woman should be examined as early as possible, including the entire body, with special reference to tuberculosis and syphilis. She should report regularly, with a specimen of urine, insured by a card-index for follow-up. A final medical examination should be held one month before confinement, after which, if entering a hospital, she should be supervised by the hospital nursing staff. According to Emmons, the medical examination includes histories of past illnesses and confinements, and present symptoms, including teeth, lungs, heart, blood vessels and pressure, abdomen, size and position of child if near term, rate and location of its heart, measurement of pelvic bones, urinary test of kidney functions, and prediction of the outcome. Kerr, for example, in the Glasgow Maternity Hospital, by such exact methods reduced the number of forceps operations, with pelvis mildly contracted from 91% to 47%, the infant mortality from 18% to 2%, and infant morbidity from 30% to 4%; similar results by Williams. The Committee of the Women's Municipal League, Boston, is now undertaking this more difficult problem of medical supervision during pregnancy and adequate care at confinement. This Committee is therefore developing "a chain of prenatal and

obstetrical clinics, which shall cover all parts of Greater Boston not at present suitably provided with facilities for such care," and gradually standardizing its work. At present, 2 dispensary prenatal clinics utilize young obstetricians and nurses of the Instructive District Nursing Association. The Maverick Dispensary is the health center of isolated East Boston, but served only 18 cases in homes, partly through local objections to a male accoucheur and competition by local physicians. The Peter Bent Brigham Hospital dispensary in 9 months delivered 90 cases, with careful medical supervision and prenatal nursing, for an average fee of $7.22. Clinics for prospective mothers were reported by 25 organizations, at infant welfare stations, dispensaries and hospitals.

Similar intricate problems arising to produce infant mortality require a specially equipped division of child hygiene under the State Board of Health, as in but 6 states at present. West '14, in her questionnaire study, found 19 state departments with no prenatal activities. Bulletins on prenatal care, supplementing that of the Children's Bureau, for example, are issued by the departments of Oregon and New York, while booklets by boards, such as Indiana, Iowa, Illinois, or North Carolina, usually describe prenatal hygiene. The New York State Division of Child Hygiene, for example, has extended a certain amount of prenatal work to 32 cities; while 3 infant welfare exhibits are sent about the state in charge of nurses. The state is divided into sanitary districts, each under a supervisor, and provision made for a system of rural nursing which might readily include maternity work. There are 3,009 counties in the United States, 1916, and in every county seat there should be a center for health work. Carstens suggests boards of public welfare of 7 elected members in counties or groups of counties, through which state departments of health might work. Such public work, Carstens points out, should be along established lines, requiring permanent care or the elements of compulsion and control. If this will afford it wider application and the state is ready to equip itself for such service, all private work of demonstrated usefulness should thus be assumed.

As 53.7% of the population of the United States is classed as rural, 1910, the present wider range in prenatal care is largely rural. In the last analysis the state is the factor for dealing with this problem. In Great Britain, Ireland, Canada and Australia, district nursing is on a national basis, with funds, schools and general management sufficient to carry their services into the remotest, poorest sections. Canada, for example, has a chain of small hospitals from Vancouver to

Labrador, as centers for district nursing. New Zealand has a system of state registration of nurses, 4 government maternity hospitals, and seeks to provide every country hospital with maternity wards. The New Zealand Society for the Health of Women and Children, Dunedin, supervised by the government, extends its work to country districts through local committees in every township. As Nutting suggests, the simplicity and flexibility of a state public health nursing service, reaching the pregnant poor in their homes for prenatal care, is clear.

The United States, on the other hand, has but a few scattered rural organizations serving as pioneers, and the vast rural population as yet is hardly touched. Medical attention is also less available, with no free clinics, hospital advantages rare, and almost no protection from local boards of health. In attempting systematic prenatal care under such conditions, State Boards of Health might well establish classes for mothers in rural schools and for expectant mothers by itinerant nurses. County Health Associations, coöperating with county clinics or hospitals, and local committees, should establish efficient systems of medical, nursing and social service through the county, as recommended in Dutchess County, for example, by the New York Committee on Hospitals of the State Charities Aid Association '13.

The American Red Cross Society is attempting to develop a system of visiting nursing in the neglected country areas, through its Department of Town and Country Nursing, directed by a special committee, coöperating with local committees. After a short training with certain associations, on a limited loan fund, nurses are provided to care for the sick, instruct and demonstrate in rural communities. Eventually the country should be districted throughout for graduate visiting nurses. Water's revised study '09 of approximately 600 district nursing societies, showed only 140 representing 166 nurses doing rural work.

A questionnaire study of 70 rural nurses in 23 different states for a Committee of the National Organization for Public Health Nursing is reported by Clement '14. In these rural communities, manufacturing is the principal industry in 35, farming in 12, mining in 6, lumbering in 3. The population is almost invariably scattered, with an estimate of 6-10 square miles per nurse. Fifty-eight were general visiting nurses, practically all restricting service on a case from 1 to 1.5 hours. Less than 30 took normal confinement cases; in other communities such patients were cared for by relatives, neighbors, practical nurses, midwives or doctors. Confinement cases in

most rural nursing communities have "not yet been adequately provided for." The rural nurse should receive special maternity training, being often called upon to deliver because the doctor fails to arrive. Clement estimates that some two-thirds of rural nurses make prenatal visits, which is perhaps rather high. Group mothers' meetings or classes of younger women are urged to report a pregnant condition. Twenty of the 30 Red Cross nurses doing this general work report on prenatal care. Their work should be supplemented by inexpensive domestic helpers to relieve prospective mothers of the heaviest household duties.

Two types of rural care are differentiated by Crandall. The work may be limited to acute illnesses and obstetrical cases in isolated sections, such as the mountains of North and South Carolina, Virginia, Kentucky, Tennessee and Pennsylvania. The pioneer work of Miss Holman in Ledger, Mitchell County, North Carolina, promoted by the Holman Association of Baltimore, is here typical. Or at Hindman, Knott County, Kentucky, for example, the Women's Christian Temperance Union Settlement sends a nurse on long rides through the mountains. In Virginia, the St. James Mission, for example, at Lydia, Greene County, with its small hospital of 5 beds and nurse, or the Mission Home, Albemarle County, are headquarters for large mountain mission work. Or somewhat similarly, at Frogmore, St. Helena Island, South Carolina, a nurse includes in her visits and weekly mothers' meetings, the neighboring islands.

Or, again, groups of small villages may unite to support 1 or more visiting nurses. For example, the District Nursing Association of Northern Westchester County, New York, at Mt. Kisco, districts its various villages, and utilizes both carriage and railroad. Or, again, the Danbury (N. H.) Church Settlement Association, covering a scattered rural district with several villages, has a small complete country hospital with dispensary. Such a plan would combine a cottage hospital and diet kitchen with the rural visiting nurse. The Grand View Hospital at Sellersville (Pa.) represents a rural experiment in medical coöperation by rural physicians through the North Pennsylvania Clinical Society as part of a definite movement. This hospital covers a thickly settled agricultural district of about 200 square miles, 8 towns, and is for persons of moderate means. It includes a training school for rural nurses, and an open staff. The Lakeville (Conn.) Visiting Nursing Association is a typical organization, receiving calls from nearby villages by carriage; similarly, the Middletown District Nursing Association. Or at Simsbury (Conn.) the

Visiting Nurse Association covers by carriage a rural district of 12 small villages, including of course obstetrical cases. Or, again, the Rockland County District Nursing Association includes Nyack, South Nyack, Grand View and Piermont, New York; or the York (N. Y.) Nursing Society covers a rural community of some 12 villages; or the District Nursing Association of Southeast (N. Y.) includes Brewster and a number of other villages. Or in New Jersey, for example, the South Orange Society for Lending Comforts to the Sick visits neighboring villages; or the Bernardsville Visiting Nurse Association includes some 20 square miles with various small villages.

These nursing systems may be promoted by the most varied agencies. Thus the Pennsylvania Rural Progress Association promotes Muncy's rural visiting nurse in farming and hill country '13. The Visiting Nurse Association of Baltimore has 8 rural nurses in Maryland '13. At Berlin (N. H.) the Berlin Mills Company supports the Instructive District Nursing Fund. Pupil visiting under the Trull Hospital Aid Association in Biddeford and Saco (Me.) receives state aid. Or, again, the University of Wisconsin is rapidly developing rural community welfare, with lectures and demonstrations, and an investigation which showed rural physicians inefficient, no trained nurses or good practical nurses and domestic helpers, and pregnant women with washing, scrubbing, cooking and other housework.

The dimensions attained by visiting nurse work in urban communities show it to be one of the most powerful modern agencies. That of 566 nursing centers, 98 are under the department of health and 22 under that of education, shows the municipal nurse is evolving as an essential factor. Schneider, in his recent survey '13 of municipal health departments, found in 201 cities, 22% made no effort whatever toward infant mortality prevention. Of the smaller cities, 33% had no plans for infant hygiene, of cities from 100,000-300,000, 69.2% have the essential features of a complete program; cities of over 300,000, 94.4%. West '14 found various municipal boards of health either affording direct prenatal care or coöperating with private associations, with its extension prevented chiefly by lack of funds. The Boston Division of Child Hygiene, for example, believes prenatal care an important function of government, and since 1911 has supervised over 1,200 expectant mothers. From June '11 to December '12, for example, there were 885 prenatal cases, 1,716 visits; from January '13 to October, 223 cases, with monthly visits. The city is districted, under 10 nurses ('12), and a prenatal

leaflet issued. Buffalo invites its expectant mothers to the milk station for advice. Cleveland '11 organized its Bureau of Child Hygiene, coöperating under 1 director with the Babies Dispensary and Hospital. Talks are given by the supervisors to conferences of mothers at the Prophylactic Babies' dispensaries under the Cleveland Congress of Mothers. Every pregnant woman unable to afford a private physician is referred under definite arrangement to a local maternity dispensary with prenatal visiting nurse and dispensary examination and control. The Detroit Department of Health indirectly coöperates. The Duluth Health Department provides prenatal care through a special nurse; and similarly in Erie the board's infant welfare nurse handles prenatal cases. The Fall River Board of Health aids all agencies doing prenatal work by organized coöperation, visiting each home with an infant death or birth in poor condition for 2 years or until the mother is again pregnant. The Jacksonville board pays the salary of a nurse under the Infant Welfare Society. Los Angeles is developing prenatal care through its Division of Child Welfare (with some 7 nurses). Similarly, the Division of Child Welfare of the Milwaukee Health Department does direct prenatal work; at 3 of its stations, classes for mothers are held. Milwaukee '12 first developed the educational district health center, covering an area of 33 city blocks, with partial prenatal care. In Nashville, the health department, through the milk dispensaries, if necessary, furnishes nurse, physician and all accessories for confinement. New York is now developing prenatal care through its Bureau of Child Hygiene '14, following the New York Milk Committee standards. Eight nurses cover 8 milk station districts, a pamphlet is issued, and, according to West, 963 mothers have been reached. Coöperation with practically all other agencies is secured through the Babies' Welfare Association of some 80 coöperating infant welfare agencies. The Newark Division of Child Hygiene gives early medical supervision, and reached 245 mothers '14. In Philadelphia, the Division of Child Hygiene is developing prenatal care, including diet instruction and provision for relief from overwork before confinement. As early as 1911, some 1,500 cases were visited. As in New York, cordial coöperation with other agencies is secured through a Babies' Welfare Association of 86 organizations. In Pittsburgh, school nurses of the Bureau of Child Welfare visit the mother before child-birth. The Providence board coöperates with private agencies, and has issued a prenatal pamphlet. School nurses of the Rochester Health Bureau do slight prenatal work. The Richmond Health Department

'10 is developing prenatal care to a limited extent, and finds it very successful.

Prenatal work in general is still upon a voluntary basis, largely supported by the unpaid services of nurses and physicians. A questionnaire study by the Committee on Nursing '13 of the American Association, found only 7 in 25 organizations specializing in infant work, with prenatal care. But West '14, in her study for the Children's Bureau, found more than 50 private organizations in prenatal work, in some 40 cities, in 20 states, while many further agencies coöoperate. The largest lying-in hospitals with their dispensaries and outpatient services include prenatal care as a matter of routine, as in the Boston Lying-in Hospital, the Chicago Lying-in Hospital, the Cleveland Babies Dispensary and Hospital, the Sloane Hospital for Women, and the New York Lying-in Hospital, or the Milwaukee Free Dispensary and Hospital. This is also true of the larger visiting nurse associations, as in Boston '01, Chicago '06, Buffalo '09. Definitely pledged to prenatal work as an object in itself are the associations of Baltimore, Boston, Buffalo, Chicago, Cincinnati, Cleveland, Dayton, Detroit, Elizabeth, Fall River, Milwaukee, Minneapolis, New Haven, New Orleans, New York, Newark, Orange, Providence, South Bend, Washington, and York. This tendency to include prenatal care in the work of lying-in hospitals and dispensaries, visiting nurse associations, infant welfare associations under many names, diet kitchen associations, settlements and churches, is ramified by coöperation with various charitable agencies, missions, churches, settlements, milk stations, school centers, women's clubs, fraternal orders, or life insurance companies.

In Alabama, for example, the Infant Welfare Society of Birmingham '14 gave prenatal care to 27 mothers. In California, for example, the University of California Hospital '13 gave prenatal care to 256 mothers, with 564 visits; and has isued several leaflets in various languages. The early detection of albuminuria in 16.6% of these cases enabled excellent results in all with conservative treatment. In Connecticut, the Infant Welfare Association of New Haven '12, coöperating with the obstetrical clinic, supplies prenatal care to as many mothers as its income permits. Through nurses of the Visiting Nurse Association some 75 mothers are reached with fortnightly visits for 5-6 months. The Visiting Nurse Association of Waterbury plans similar prenatal work. For the District of Columbia, the Instructive Visiting Nurse Society '13, through 2 nurses, gave prenatal care to 73 mothers, with a weekly clinic, using a milk station as consultation bureau

and a hospital for out-patient service. The Woman's Clinic Auxiliary '13 conducts a clinic for actual and potential mothers, with advice for expectant mothers, by a staff of 10 women physicians. Prenatal care is given both at the clinic and in the homes, including a visit by a staff physician and examinations at regular intervals. This out-patient maternity department aims to reach the lower middle class above aid from the Associated Charities. The Associated Charities prevent the expectant mother from overworking by supplementing the income or adjusting domestic relations, supplying nourishing food if necessary. In Florida, for example, the Infant Welfare Society of Jacksonville commenced prenatal work in 1912.

In Illinois, the Infant Welfare Society of Chicago, although with no organized prenatal work, provides prenatal instruction to expectant mothers with whom its 9 nurses ('14) come in contact. The Mary Crane Day Nursery does prenatal work for women of the Hull House Neighborhood, including classes in sewing and otherwise preparing for the baby, as early as 1908, caring for 21 mothers. The Visiting Nurse Association of Chicago provides prenatal care in its routine. Prenatal work among the hospitals and dispensaries is very small, although some instruct in diet and complications, while several social service departments seek favorable conditions for the poor during the later weeks. Important antenatal care, however, is given at the Chicago Lying-in Hospital's dispensary, with over 2,000 cases, and its branches at Provident Hospital (colored) and in the stockyards district. Instructions are in various languages, the women are examined for abnormalities, and cared for by social workers.

In Indiana, the Children's Aid Association of Indianapolis does very little prenatal work as yet, though its 4 nurses ('13) are instructed to advise pregnant mothers in the more congested districts, usually after the third month, and the Association will furnish milk during pregnancy. The Children's Dispensary and Hospital Association of South Bend consider prenatal care an important factor in reduced infant mortality, and in '12 cared for 18 mothers, in '13 for 91, in '14 for 131. Mothers are encouraged to report early, followed by weekly calls through the nurses. In Kansas, the Topeka Public Nursing Association '14 is developing prenatal care. At Lexington, Kentucky, the Babies Milk Fund has definite plans for prenatal instruction, in coöperation with the excellent obstetrical service of a local hospital. In 1914, the Babies Milk Fund Association of Louisville, Kentucky, opened an obstetrical clinic in connection with the University of Louisville, with home visits by a prenatal nurse every 10-14 days to teach the hygiene of pregnancy and direct the preparation. Staff physi-

cians (5) visit at the nurse's request, and deliver the case assisted by a student and nurse. The first year showed 42 deliveries, with 1 stillbirth, 2 miscarriages, and no eclampsia, cases having averaged 3.4 months of prenatal care. The Child Welfare Association of New Orleans, Louisiana, finds its prenatal work '12 most valuable.

In Maryland, the Council Milk and Ice Fund of Baltimore, which reaches about 400 families in all branches of infant welfare work, includes prenatal care. The Maryland Association for the Study and Prevention of Infant Mortality (Babies Milk Fund) of Baltimore finds prenatal care a "most important form of welfare work." Since 1910, its (9) nurses visit expectant mothers registered in the (4) large obstetrical clinics. Of 827 prenatal cases, February to September '13, with 565 delivered, 486 infants were living at the end of 1 month (24 deaths, 3 premature, 34 stillborn, 13 miscarriages). West lists 2,295 mothers as reached. The most recent experiment of this Association was in providing prenatal and skilled obstetrical care in a community of some 6,000 at Locust Point, the majority wage-earners ($9-$12 weekly), and remote from hospital centers or similar agencies. In 1914, as a substitute for poorly trained physicians and unskilled midwives, an obstetrical clinic with one woman physician was equipped. Mothers are urged to register early, a preliminary examination by the physician is followed by others, and hospital care urged if there are abnormalities. The prenatal nurse instructs every 10 days, examines the urine monthly, and every 10 days after the 8th month, and makes all arrangements for confinement. Members of the Mothers' Auxiliary of the Parents and Teachers Club take turns in looking after the house; and if a caretaker is necessary, a former household arts pupil of the Francis Scott Key Public School is recommended, and paid from the club funds or by the Federated Charities.

In Massachusetts, similar to the prenatal clinic of the Boston Lying-in Hospital, the Massachusetts Homeopathic, for example, gives prenatal instruction with regular visits by the nurse through its out-patient department. In 1913, the Instructive District Nursing Association, "recognized as one of the most efficient nursing organizations in the world today," supervised 1,966 cases in coöperation with the Division of Child Hygiene, which limited its prenatal nursing to 83 cases. Among the settlements, the South End House, for example, has classes for mothers, and to a certain extent seeks to educate the father. According to West, the Committee on Infant Social Service has cared for 1,512 mothers, the Boston Lying-in Hospital, 1,377; the Division of Child Hygiene, 1,238; the Instructive District Nurse Association, 870. In Fall River,

prenatal care is provided by the pregnancy clinic of Union Hospital and the District Nursing Association; and, similarly, by the associations of Holyoke, Pittsfield and Springfield. The Holyoke Infant Hygiene Association '14 reached 70-80% of the mothers, previously but 20-30%. The Springfield Baby Feeding Association '14 gave prenatal care to 202 mothers with visits every 14 days for an average of 4-5 months. The average weight of 106 babies born was 7 pounds, 6 ounces. In Worcester '14, the visiting prenatal nurse of the Association cared for 127 cases, with 629 visits.

In Michigan, the Battle Creek Sanitarium, through its training school for nurses, affiliated with the Chicago Children's Hospital, instructs several months before confinement, with prenatal care through the dispensary visiting nurse. Prenatal work is part of the routine of the Visiting Nurse Association, Detroit, sending a special nurse to maternity cases, with instruction in the homes. Pregnancy clinics are operated in connection with milk stations. The Clinic for Infant Feeding, Grand Rapids, through its auxiliary, the Wet-Nursing Guild, advises expectant mothers reached through its infant work. In Minnesota, the Minneapolis Infant Welfare Society gives weekly prenatal instruction to mothers by the physician at the Association Dispensary. Cases from visiting nurses and the obstetrical department of the University Hospital are under care for about 3 months, with visits twice a month by the nurse. In Missouri, the St. Louis Visiting Nurse Association includes prenatal care in its routine. In 1911, 572 maternity cases were cared for with only 3 deaths, 230 were visited before confinement, the majority at the 6th-8th month. The obstetrical department of Washington University, coöperating with the St. Louis Children's Hospital, follows cases from early pregnancy until 1 week after birth, through prenatal nurses from its social service department. The Infant Feeding Conference of the St. Louis Pure Milk Commission has successfully included prenatal work, by nurses in the homes, for more than 4 years. In Manchester, New Hampshire, 6.6% of the confinements were delivered through the obstetrical department of the District Nurse Association, utilizing the younger physicians, after nursing care. At Berlin and Concord, for example, the Visiting Nurse Associations afford prenatal care. In New Jersey, the Visiting Nurse Association of Elizabeth, according to West, cared for 76 pregnant mothers; while the General Hospital has a prenatal clinic attended by a nurse. In Newark, the Maternity Aid Society, Visiting Nurse Association and various relief societies coöperate. Or, again, the Diet Kitchen of the Oranges gives

prenatal care '14 through its nurse, visits every 2 weeks, for about 6 months.

In New York, Auburn is starting prenatal work. At Buffalo the District Nurse Association '13-'14, cared for 780 pregnant mothers. In New York, the Association for Improving the Condition of the Poor affords careful prenatal instruction through its Bureau of Educational Nursing to mothers in families under its care. The New York Diet Kitchen Association '14 gives prenatal care to mothers in their 8 milk station districts, interviewing many cases weekly at the station, and all every two weeks, for an average of 5 months, in all, 620 mothers. The Henry Street Settlement nurses, for example, maintain a separate staff for obstetrical cases. In the outpatient department of the Rochester General Hospital prospective mothers may receive free prenatal instruction, while a prenatal nurse is furnished by private philanthropy. According to Goler, material aid was given in 21 cases, and of 522 cases there was but 1 maternal death. In Syracuse, the Infant Welfare Association '14 has made a start in prenatal work, including milk to 15 expectant mothers, and frequent visits to 97. The Baby Welfare Committee of Utica commenced prenatal work '13 through the regular milk station nurse, visiting 116 expectant mothers every two weeks, for 1,089 calls, and referring to a physician or the obstetric clinic of the Utica Dispensary.

In Ohio, the Cincinnati Maternity Society, coöperating with the Visiting Nurse Association, furnished excellent prenatal care to 92 mothers. In Cleveland, the Babies' Dispensary and Hospital coöperates closely with the Bureau of Child Hygiene. The Columbus Instructive District Nursing Association includes prenatal instruction in its routine, and arranges for confinement. For 9 months, '12, about 175 pregnant mothers were supervised. The Visiting Nurse Association of Dayton, according to West, supervised 92 mothers. This association writes, "Among working mothers we can do little about work and sleep, but accomplish something in regulating diet and bowels, in increasing consumption of water, and especially in driving out the midwife, and getting patients to hospitals for delivery, or arranging for proper care at home."

In Pennsylvania the Johnstown Associated Charities 14 coöperated in a small amount of prenatal work by the district nurse of the Civic Club. In Philadelphia, the Starr Center is developing classes for mothers. The Child Federation, with special medical, nursing and investigating staffs as occasion demands, has established a health center, with 3 nurses and 3 physicians, in the Italian section, and maintains prenatal lectures, examinations and home instruction. The Babies Hos-

pital has established prenatal clinics, and also classes for mothers and fathers. Prenatal work was commenced through the Phipp's Institute '14, reaching about 600 mothers in various ways. Tallant cites the out-practice of the Woman's Medical College of Pennsylvania as providing woman physicians for the crowded foreign quarter, with only 3 maternal deaths in the last 2,500 cases, and a gross mortality from stillbirths of but 2.3%, as compared with 5.3% in all Philadelphia '11. The Pittsburgh Maternity Dispensary '13 finds prenatal care indispensable, correcting abnormal positions of the foetus, providing preventive treatment of the toxemias of pregnancy, and the timely discovery of abnormalities and complications. The York Visiting Nurse Association similarly finds prenatal care of "inestimable value." In 1914, 30 mothers applied to the nurses for prenatal care, supplemented through talks by local physicians.

In Rhode Island, the Providence District Nursing Association '14 commenced prenatal work for from 2-7 months through its six baby welfare nurses, about 60% of the cases being reported by the Lying-in Hospital. In Vermont, Brattleboro has solved a typical town problem through a health center directing nursing and household care by its trained nurses and domestic helpers, while coöperating with local physicians. At Burlington, for example, the University Hospital and out-door service includes frequent antepartum visits by students; in the pregnancy clinic, the patient returns every 4 weeks until the 7th month, then every 2 weeks. In Milwaukee, Wisconsin the Infants' Home and Hospital will soon develop prenatal work. The Milwaukee Maternity Hospital and Free Dispensary Association considers systematic prenatal instruction and treatment "probably more important than intelligent care of the mother during labor." The first visit involves a thorough physical and obstetrical examination, abnormal positions are remedied, and toxemia anticipated; in impending toxemia, the patient is visited daily. In more than 1,000 registered cases, there has been no eclampsia. This hospital coöperates, for example, with the Associated Charities, Society for the Care of the Sick, and Visiting Nurse Association.

Prenatal care may be nullified by poor obstetrics, and the two are interdependent. Failure to meet the obstetrical problem may result in two deaths, or partial invalidism; and yet present obstetrical conditions are "a national scandal upon the medical profession." According to Williams, only three lying-in- hospitals (New York and Pittsburgh) are what they should be physically. This opens another subject, however, which must be postponed until later.

THE OLD SYSTEM OF CHINESE EDUCATION

By Ping Ling

In compliance with President G. Stanley Hall's request, the following pages represent an endeavor to describe the old type of Chinese education in its unmodified form and with particular reference to the experience of the writer's childhood. The subject thus assigned to me is very vast in its nature and there are so many points of interest that I can hardly touch at all in a brief paper like this. What I propose to do here is to describe some of the salient features of this unique and antiquated form of education which I have actually experienced myself.

In order to understand the old system of Chinese education, there are two things which we must bear in mind. The first is that there has been a genuine intellectual aristocracy in China, and this was particularly true before the Republic. Under the imperial form of government the learned men were more highly rewarded and respected in China than in any other country which I know of. We had no caste system in China as you find it in India. Any one could expect to hold the highest political position of the country, if his scholastic achievement warranted such a reward. The successful students of literature usually became political officers of great importance and thus assumed complete control of the organization and direction of social life. The whole governing class was composed of scholars in politics, and we can hardly find a better example of practical Platonic philosophy—that is, philosophers should be rulers, and vice versa—than the political system of China under the old regime, although the Chinese conception of a scholar was different from Plato's conception of a philosopher. This explains the reason why the Chinese people have always respected learning and education even though the government paid no attention to public education until the beginning of the present century.

The second thing we should bear in mind in this discussion is that the aim of the old system of education was to crush individuality and to recapitulate the past in order to maintain social stability and tranquility. The chief policy of the Chinese government under the dynastic rule was to prevent change, so the aim of the old education was to inculcate in the individual

the habits of thought and action identical with those of the past without developing any ability to modify the existing institutions or to adjust himself to new conditions. Thus one of the ancient philosophers tells us: "Fill the people's bellies and empty their minds; cause that they neither know nor desire anything, and you have the secret of a tranquil government." To a very great extent the imperial government of China had succeeded in carrying out this philosophy through its indirect control of education. Furthermore, China has a very long and glorious history of her national life, so the Chinese people were very prone to look back to the past for political and social inspiration instead of looking forward to the future. This tendency may furnish us the key to explain the many phases of Chinese religion, philosophy, education and the very foundation of Chinese social life.

With this brief preliminary remark we may now describe the old system of Chinese education under the following rubrics: namely, its organization, content, and method, the examination system, and finally its results.

Organization—The institutional organization of the old Chinese education was a very simple one. There was no diverse system of elementary schools, high schools or college. The only kind of school we had was a village school taught by an unsuccessful candidate for the degrees and attended by a half dozen or more pupils in the village. Education with the Chinese was entirely a private affair. Public schools supported by taxation and with compulsory attendance did not exist until very recently. The education of the children was left to the parents. A wealthy family may have had a school of its own. Poor families either sent their children to the family schools of their wealthy relatives or had a common village school supported by private tuition. It is to be remembered that such elementary schools were found practically in every village.

With regard to school-houses, there were none to speak of. School was kept in any vacant room of a private house, of an ancestral temple or of a public building. For example, the school-house in which the writer stayed for many years during his early childhood was a fairly large room with muddy floor and thatched roof. The walls were made of sun-dried clay. There were two small windows on one side of the room which constituted the only means of lighting and ventilation. Heating was unknown, nor was there any facility for heating the room in the winter. During severe weather frozen hands and feet were of common occurrence. Both the master and the pupils bore the suffering with surprising fortitude.

Generally speaking, the most interesting and important thing in the life of a Chinese child was the commencement of school life. When a child reached his sixth or seventh year, his long years of school life began. The almanac was then consulted, and a lucky day chosen for inducting him into a life of study. Clad in festal robe, he was sent to a village school. On entering the room, he had to perform two acts of worship: the first was to prostrate himself before the tablet of Confucius, and the second was to salute in the same manner the teacher who was to guide his inexperienced feet in the pathway of knowledge. Usually this occasion was one for feasting, in which all the close relatives of the child were invited to participate. After the commencement exercises the child began his long years of confinement. School days were long and holidays were few. He had to go to school very early in the morning and come out very late in the evening. He devoted all his time to learning and had no time for rest, except the meal hours. Indeed, the task to be accomplished was so tremendous that there was no time left for play or amusement.

Another interesting thing in the old Chinese school system was the extraordinary social position occupied by the teacher. In no other country was the office of teacher more revered. Not only did the living instructor command the profoundest respect, but the very name of teacher, taken in the abstract, was an object of worship. On the family tablet, on which the five objects of veneration were inscribed, the word "teacher" was placed in connection with the characters of heaven, earth, sovereign, and parents. I will not be surprised if this ancient custom can still be found in the rural districts of to-day. In a word, the teacher's position in the society was one of honor and influence. To be sure, teaching was not a remunerative profession in China, yet the meagre pay of a teacher was more than compensated by his exalted social position.

Content—The content of the old Chinese education was very restricted in its nature. Literature was the first and the last thing which a child was expected to master. When a child entered school he was first given the task of memorizing from four to five hundred different characters. As we all know, the Chinese language is ideographic. Every word represents an idea and has its particular form and strokes. There are no alphabets, so there is no "short-cut" in learning the characters. The task of memorizing several hundred of them for a child of six or seven is nothing but prodigious. Strange it may seem that a bright child can finish this tremendous task within a very short time. After the completion of this work,

the child was then given a remarkable primer, the Trimetrical Classic, to read. The subject matter of this primer consists of discussions on philosophy, ethics, religion, education, political science, history, and geography. All sentences are composed of three words each and beautifully rhymed. To give some idea of this wonderful book, the opening lines translated by Dr. Williams may be quoted:

"Men at their birth are by nature radically good:
Though alike in this, in practice they widely diverge.
If not educated, the natural character grows worse:
A course of education is made valuable by close attention.
Of old, Mencius's mother selected a residence,
And when her son did not learn, cut out the (half-wove) web.
To nurture and not educate is a father's error:
To educate without rigor shows a teacher's indolence.
That boys should not learn is an unjust thing:
For if they do not learn in youth, what will they do when old?
As gems unwrought serve no useful end,
So men untaught will never know what right conduct is."

After the primer, the study of the Four Books was in order. Judging by the content and the influence upon Chinese civilization, these four books are often called by the western writers the "Chinese Bible." The following passage may be quoted as an illustration:

"What the Great Learning teaches, is—to illustrate illustrious virtue; to renovate the people; and to rest in the highest excellence.

"The point where to rest being known, the object of pursuit is then determined; and, that being determined, a calm unperturberedness may be attained to. To that calmness there will succeed a tranquil repose. In that repose there may be careful deliberation, and that deliberation will be followed by the attainment of the desired end.

"Things have their root and branches. Affairs have their end and their beginning. To know what is first and what is last will lead near to what is taught in the Great Learning."

These quotations may give the reader some idea about the kind of material which an ordinary school pupil had to memorize. But we must also remember that memory was the only thing required at this stage of education, and nothing else. After the Four Books, the study of the Five Classics was the next in order, and here memory again. For an average child, the memorizing of the Four Books and the Five

Classics would require about five or six years of constant "grinding." As a rule, such memory work was so thoroughly done that the child could repeat these nine sacred books from cover to cover. When we remember that these nine books in their unabridgd edition are greater in bulk than the Old and New Testaments, we may easily imagine how tremendous would be the task of memorizing them.

After this memory work, the practice in the art of writing would begin. In order to familiarize the pupil with the different styles of writing, hundreds of poems, prose essays, and historical commentaries were also to be studied and memorized. However, in this stage, composition work was the leading object, reading being entirely subsidiary. This form of education might continue for years before one could pass the first competitive examination which will be described in a later section of this paper.

Method—With regard to the method of the old Chinese education, there is scarcely anything more to be said. Memory was the Alpha and Omega of the entire system of instruction, and everything was carefully adjusted to this end. Teaching was absolutely an individual affair. The teacher could only take care of one pupil at one time. When a child first learned to read, the teacher usually read to him the assignment in the text many times until he got the correct pronunciation of the words and the proper articulation of the sentences. Then he would go back to his own seat and study the assignment by reading aloud. Here we may notice that loud reading did help the memory to a very great extent. After he had learned the lesson by heart, he would hand the book to the teacher, turn his back, and recite the passage at the highest attainable speed. Then a new lesson would be given and the same process was repeated. The whole system of instruction was just as unique as it was humorous.

Another interesting feature of the method of instruction was the constant application of corporal punishment. The western proverb—"spare the rod, spoil the child"—was literally carried out to its absurd extreme. Sometimes punishment was inflicted merely for the sake of punishment. As the classical primer says: "To educate without rigor shows a teacher's indolence," so not infrequently the teacher's professional fitness was judged by his ability of inflicting pains. Indeed, the rod was considered as the only means to make the child learn. Inability on the part of the child was identified with inattentiveness, so failure to accomplish the assigned task within a certain time-limit was often a cause for merciless punishment. Take a concrete case. At the age of nine, the

writer failed on one occasion to reproduce a long passage of classic literature in its exact order. For this failure he received a severe blow which broke his head on the right side. This stunned him for a few minutes, and when he regained his consciousness he went home with a face covered with blood. Yet his good parents uttered not a single word against the teacher for such a brutal act, because, according to the custom, it was perfectly within the teacher's legitimate right to do so. Had any investigation been made with regard to the cases of death and permanent injury among the school children caused by this single factor, we might have a very interesting story to tell.

The Examination System—I have given a rather brief sketch of the old Chinese education with particular reference to its organization, content, and method, we may now turn our attention to the famous examination system which had existed for many centuries before it was finally abolished in 1906. As I have said, the Chinese government had paid no attention to public education in the way of financial support, supervision or direction until the beginning of the present century, but it did encourage purely intellectual culture and it did so in a most effective manner by testing attainments and rewarding exertion, namely, the system of competitive examinations. Through these examinations the different degrees were conferred upon the accomplished scholars in literature, and only through the success in these examinations could a learned man expect to achieve political prominence. In a sense, these examinations were comparable, though not identical, with the civil service examinations in the western countries, because no one could hold any official position unless he possessed a degree, and no one could have a degree unless he could show his brilliancy and accomplishment in the examination halls. We can not understand the Chinese education nor the Chinese political organization in the past without having some idea of this unique institution.

First of all, let us take a general view of this examination system. The degrees granted on the basis of competition were four:

First—Hsiu Tsai or "Flower of talent."
Second—Chu Jen or "Promoted scholar."
Third—Chin Shih or "Fit for Office."
Fourth—Han Lin or "Member of the Forest of Pencils."

The first of these was sometimes compared to the degree of B. A., the second to M. A. and the third to Ph. D.; while the fourth merely indicated the membership in the Imperial Acad-

emy and this honor was conferred on the basis of good penmanship. Indeed, we have no right in drawing this comparison between the Chinese degrees and the degrees conferred by the western colleges and universities, because the resemblance between them is so slight. Chinese degrees were conferred by the State, without the intervention of school or college; they carried with them the privileges of official rank; and they were bestowed on a very small percentage of those who entered into the competition. The first degree was conferred by the provincial chancellor who was required to visit every examination district in the province every other year and hold examinations for this purpose. The successful students, usually about one per cent. of the candidates, were decorated with the insignia of rank and were bestowed with all the privileges and immunities pertaining to the degree. The trial for the second degree was held in the capital of each province once in three years. The examination was conducted by a special commissioner sent from Peking, and consisted of three sessions of three days each, making nine days of almost continuous exertion. Usually about one per cent. of the candidates was selected for the honor. Then the second degree men would proceed to the national capital to take the examination for the third degree, and success in this would mean an admission to the candidacy of civil office. But they were not assigned to any special office until they passed two other special examinations held within the palace and presided over by the emperor himself. The most successful candidates of these examinations would receive the fourth degree which carried with it the highest distinction of scholastic attainment.

Such is the general sketch of the whole system. We may now take a closer view of some of these examinations as they were actually conducted. The writer had the privilege of taking the examinations for the first and second degrees in his early teens. It may not be entirely out of place here to describe some aspects of this experience very briefly.

The examination for the first degree consisted of three stages. The first stage may be called a district examination conducted by the chief officer of the district or *hsien*, a territorial division which corresponds to a large county in this country. About two thousand competitors took the examination, ranging in age from the precocious youth just entering his teens up to the venerable old man of three score and ten. Usually in the very early morning the gate to the great examination hall was opened and the competitors were admitted one by one, and received their examination papers as they went

in. Shut up for a whole day they each produced two essays on certain given subjects, and then went to their homes to wait for the bulletin announcing the result. As a rule, the unfit were eliminated the first time and the successful students were ranked according to the merit of their examination papers. Then a second test would be given, and more would be eliminated. This elimination process might be repeated from five to seven times until only a few hundred competitors were left. Thus ended the district examination. After a month or so, a second examination would be given. This was usually conducted by the chief officer of the prefect, and the same process was again repeated. Immediately after this, a final test conducted by the provincial chancellor was held. The chancellor, assisted by his clerks, spent several days in roughly looking over the manuscripts, from which he picked out some twenty or more that were distingushed in beautiful penmanship and literary style. The authors of these were honored with the first degree of "Flower of Talent," and for many people this was a sufficient compensation for many years of patient toil.

Once in every three years, these "Flowers of Talent" went to the capital city of the province to take the examination for the second degree. Thousands of competitors entered the trial, but only a few were chosen. As I have pointed out this examination consisted of three sessions of three days each. Every competitor was assigned to a special cell which is about six by seven feet in size. The entire furniture of the cell consisted of a few wooden boards out of which one might make a bed and something to write on. Food was supplied but was poor in quality and insufficient in quantity. Of course, every competitor was fully equipped with blankets and food of his own. Sanitary conditions were very bad and people of delicate health frequently succumbed. Shut up in such a cell, every competitor was required to produce five essays on certain given subjects in three days. The second and the third sessions simply repeated the same process. The subjects of this examination were higher literary criticism, history commentary, poetry, and discourses on current topics. It seems very strange that much good literature was produced in these examinations, even though the conditions in the examination-halls were very unfavorable for careful thinking and mental exertion.

The trial for the third degree was very much similar to that for the second, although the requirement was much higher and the test was much harder. The description of this examination will not be given here, because the writer had no experience in this.

So much for this brief account of the examination system, now just a word about its effect upon Chinese education in general. It has already been pointed out that this system was the chief means of selecting the best talent for the service of the public, but beyond this, its primary object was to encourage and to control the education of the people. It was very democratic in its nature, because it offered a fair opportunity to all, and every public officer had to earn his position by intellectual effort. It stimulated millions of ambitious students to study and to study with unabated zeal. It furnished a powerful motive for the people, poor as well as rich, to send their children to school, because only through education could they expect to better their social positions. If China did not produce many prominent men of intellect from the Western point of view, I rather think that it was due to the false standard of intellectual merit established in China, not to the fault of the competitive system. Many features of this examination sytem should be mercilessly condemned, but judging by its practical effect upon Chinese education, it did a great service despite its defects.

Results of Chinese Education—The results of the old type of Chinese education upon Chinese national life may be briefly stated as follows:

1. It produced a type of people who were conservative in temperament and preferred peace at any price. The policy of the Imperial Government was to prevent change, and it succeeded to a very great extent in accomplishing this aim through its indirect control of education.

2. It had over-estimated the value of purely intellectual culture and under-estimated the value of science. For centuries past, letters were everything and science nothing to the Chinese. They cultivated the power of retentiveness rather than that of invention. The practical side of education was entirely ignored. The Chinese people did not recognize the psychological principle that intellect is hand-made, so they always considered that manual training was incompatible with intellectual acquisition.

3. It produced physical deterioration among the educated class. Physical education received no attention whatever. For a school child, play was a disgrace and physical exercise was barbarous. Indeed, one's physical strength and vigor were in inverse proportion to his intellectual growth.

4. It emphasized moral education through training. Beside the mastering of the Four Books and the Five Classics which consist mainly of ethical precepts, the child was trained in moral conduct by both punishment and reward. This is one

of the best things which can be said about the old type of Chinese education.

In conclusion, it may be said that whatever were the defects and merits of the Chinese education, the whole system has died a sudden death. We are in the dawn of a new day. Indeed, it is not an exaggeration to say that we are in a period of renaissance of Chinese civilization. We have achieved a new birth in our political organization, and we are achieving a new birth in our educational system. Judging by the results, we probably have made more rapid progress along the line of modern education in the past two decades than any other country during the same period. The initial success is encouraging, and the final result can no longer be in doubt. Give us time, and I am confident that we will be able to work out our complete salvation in the near future.

SOME HEALTH CONDITIONS EXISTING AMONG OUR HIGH SCHOOL GIRLS

By Florence A. Gates

The problem of the health of the high school girl ought to be one of vital interest, but recent researches make one appalled at the meagreness of material on this subject. Medical inspection of children in the grades and health conditions among our high school athletes seem to be paramount in the minds of school authorities.

The question of responsibility for the health of these girls is a debatable one. School officials and teachers feel that the mother should be held responsible to a great extent, while the mothers in turn blame the schools for health conditions of their girls, and question ability of teachers to assume such a responsibility as caring for their girls. Walter Truslow,[1] John Tyler,[2] and Dr. Florence Richards,[3] who have studied this subject carefully, have offered the following as causes of poor health conditions among our girls: Great demands made on mental powers, pubertal changes, and lack of exercise and fresh air, while Dr. Robert Lovett,[4] who conducted a questionnaire among teachers of the high schools of Boston and vicinity, found that the teachers believed that overwork, late hours, social or household demands and injudicious food were the chief causes.

In making this investigation the writer secured data from over three hundred girls from all classes of the Waite High School, Toledo, Ohio, by placing in their hands a questionnaire. The points emphasized for their answers took up the subjects of age, their usual breakfast, tea, coffee and water drinking, habits, care of teeth, out-of-door exercise, home study, hours of sleep and prevalence of headaches, constipation and menstrual conditions.

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[1] Walter Truslow. Exercise during Adolescence. *American Physical Education Review.* Vol. 3 No. 2 June 1898.

[2] John Tyler. Growth and Education. 1907 p. 162.

[3] Florence Richards. Hygiene for Girls. 1913

[4] R. W. Lovett. The Health of School Girls. *American Physical Education Review.* Vol. 7, No. 3, Sept. 1902.

The average age studied was nearly sixteen years, of which 6 per cent were thirteen years of age, 15.4 per cent fourteen, 24.6 per cent fifteen, 27.1 per cent sixteen, 15.7 per cent seventeen, 13.8 per cent eighteen and the remaining 2.8 per cent nineteen and twenty. Since the two extremes represented such a small number of girls, their data have, in most cases, been ignored.

While the high school studied has an excellent refectory, where balanced meals are served at a low cost, it is a question where the average adolescent girl there received the proper amount and kind of food needed at the noon lunch period. Tyler claims that 80 per cent of the food of the adult is needed by them, and with meagre breakfasts reported by so many and the small amount of food eaten by our girls at this lunch period, it is needless to say our girls in many cases are underfed. Too many depend on a cake of chocolate or dish of ice cream, when the body is calling for at least one hot meal of food. With the limited time at the disposal of the writer at lunch time, a close study of foods chosen by our girls could not be made.

However the matter of the breakfast of the high school girl was given attention. It was found that only 85 per cent of the girls we studied ate breakfast regularly, the ones denying themselves this meal being chiefly the younger girls, the habit reaching its climax at the age of sixteen. These girls were further questioned, and gave as their reasons, first, laziness in rising, and second, fear of growing fleshy. A close inspection of them showed a prevalence of the anaemic type, who, while showing classwork of a high order, lacked physical endurance and fainted easily upon overexertion.

When the breakfasts of the 85 per cent of the girls were studied, the fact was revealed that one-third of these girls were not eating either sufficient food or the proper kind for their morning meal. While it is difficult to draw the line, we consider the following menus submitted not well adapted to the well-being of our high school girls: (a) coffee or tea and toast; (b) coffee and crackers; (c) fruit; (d) a doughnut, fried potatoes and coffee; (e) hot water, bread and butter, two or three cinnamon rolls.

Dr. Hollopeter's investigations among Philadelphia school children as to breakfasts seemed to be the only available material for comparison on this subject, and it is interesting to note the extreme closeness of the compared figures in a number of instances. These figures naturally represent per cents.

Food	*Philadelphia*	*Toledo*
Coffee	58.0	39.5
Milk	15.0	15.9
Cocoa	11.0	16.6
Tea	11.0	1.7
Bread	69.0	75.2
Rolls	4.0	
Eggs	40.0	28.6
Cereals	35.0	44.5
Potatoes	5.0	9.1
Cakes	18.0	
Meat	9.0	4.2
Fruit	9.0	18.7
Etc.	6.0	4.0
Breakfasts inadequate		

Our Toledo report shows fewer drinkers of coffee and tea, fewer eating eggs, though the present prices may be the cause of this, a greater preference is shown for cereals and fruits. When the detailed study was made of the foods eaten at breakfast by our girls, the "squeamishness," using the words of Dr. Hall, of our sixteen-year-old girls was made apparent. These sixteen-year-old girls either ate no breakfast, or ate insufficient amounts. The younger girls ate the foods which give the body nutriment, heat and energy, while their sixteen-year-old sisters showed a preference for the fruits and stimulants.

Hoag claims that more than 50 per cent of our school children drink coffee, but this statement may have been based on Dr. Hollopeter's investigations. No data could be found on this habit as existing among high school girls. Our investigation showed that 57 of our fourteen-year-old girls drank either tea or coffee or both, 65 per cent of those of fifteen years of age, 64 per cent at both the ages of sixteen and seventeen and 57 per cent at the age of eighteen. The sudden rise in this habit appearing at the age of fifteen may be accounted for by the facts that the first year in high school calls forth an unusual amount of energy from the girl, the body is adjusting itself to new growth and developmental conditions and with these two in force, the desire for stimulants is apparent. The opposite condition holds true for the girl of eighteen.

The water drinking habit was deemed of sufficient importance for study, since in the adolescent body waste products of metabolism are rapidly formed and glands are excreting copiously. The amount of water required by these adolescents naturally varies, for weather conditions, conditions of the nervous system and certain foods would all affect the rate of excretion. A questionnaire recently submitted to a high school

class revealed the startling fact that at noon that day only 25 per cent had drunk any water.

Our study shows that at least one-half of our high school girls are not drinking sufficient water, five glasses daily being considered a conservative estimate needed by the average girl. The girls drinking the largest amounts are of the athletic type, belonging to the tennis and basketball teams. The number of those drinking insufficient water increased with age, and a sudden rise was noted at the age of eighteen. The majority under that age are taking elective or compulsory gymnasium, which shows their active life and its effects as opposed to the sedentary life of the eighteen-year-old girls. This habit of drinking little water along with more hours of home study shows its effect in the studies of headaches, constipation and painful menstruation.

Very little available data was found on the subject of oral hygiene of high school girls, though Dr. Florence Richards[5] reports that in the William Penn High School for Girls at Philadelphia, 10 per cent suffer from carious teeth. A questionnaire among 84 pupils of our high school in 1915, 71 per cent of whom were girls at an average age of 15.8 years, revealed that 40 per cent reported dental caries, 15 per cent had never visited a dentist, and 40 per cent had never had their teeth cleaned by a dentist. Ninety per cent, however, reported that they brushed their teeth at least once daily.

The questionnaire upon which this article is based, shows that 27 per cent of our fourteen-year-old girls have never visited a dentist. This number gradually lowers until at the age of seventeen we find it to be 12.5 per cent and raised to 16.5 per cent at the age of eighteen. Fully 50 per cent of these girls studied have visited a dentist within the past year. It is felt that the emphasis placed upon this subject in a laboratory course in Physiology and Hygiene for the younger girls in our high school has much to do with the lowering of the above rates. A corresponding necessity for emphasis along hygienic lines, as done in our large high schools for girls of the upper classes, is made apparent. While our figures are greatly in excess of those of Dr. Richards, it is felt that this may be due to the large number of these girls who come from rural districts or cities where medical inspection is lacking.

Truslow[6] says that two hours daily is little enough in the

[5] Florence Richards. Physical Training with special Corrective Work and Hygiene in Girl's High Schools. *School Review.* March, 1914.

[6] Referred to in first part of article.

open air for our high school girls. Lovett[7] found that the girls in the Boston high schools averaged 60 minutes daily in the open air. It was learned from our study that the girls of our high school spent on an average of in out-of-door exercise one hour and twenty-four minutes daily, in addition to two hours a week daily in the gymnasium. Seventeen per cent of these girls spent less than one hour daily out of doors.

Lovett[7] and Truslow[7] fortunately also investigated the subject of home study among high school girls. Lovett found that girls of the high schools of Boston and vicinity averaged four hours daily home study, while Truslow is of the opinion that girls up to fifteen and sixteen years of age should not spend more than one hour out of school in study at home. Our high school pupils, with the exception of those who have failed in subjects the previous semester, or who are making up work lost by absence, or who are in need of additional help, are excused daily at one thirty. The study hours in school vary, but no regular student has more than ten study hours a week in school, and the two lowest classes at the time of this writing have no more than eight and some of these only two, much of their work being manual training and laboratory work in science. We found that the average time spent in home study by our girls was 2.7 hours, and that 22 per cent of our girls were spending four hours or more in study at home, which seems a longer time than the average adolescent should devote to this purpose.

When the subject of sleep of adolescent girls was looked into, a little more data was found. Dukes,[8] Warner[9] and Terman[10] have studied this subject, the two former recommending an absolute number of hours necessary, while Terman's recommendations come as the result of investigation of 1,012 Western girls. Our reports show a declining rate in the number of hours of sleep as the ages increased, but at all ages, less than those recommended by Dukes and Warner.

In every case we found our girls had longer sleep periods than the Western ones studied by Terman. Our girls of thirteen average 9.5 hours and the decline is gradual up to the age of twenty, where the average runs to 8.25 hours.

We found also that 15 per cent of our girls retired before nine o'clock, the majority of whom were fifteen years of age;

[7] Referred to in first part of article.

[8] Catherine Chisholm. The Medical Inspection of Girls in Secondary Schools. 1913. p 188. Figures quoted here are given by Dukes in Clifford Allbutt's System of Medicine.

[9] Stanley Hall. Adolescence. Vol. 1, p 263

[10] L. Terman. The Hygiene of the School Child. 1914.

that 32 per cent in addition retired before half-past nine, chiefly girls of sixteen years of age. Of those retiring after half-past ten, which was only 8 per cent, no especial age was noted. Using Warner's estimates as a basis, it was shown that one-half of our girls of fourteen and fifteen years of age received insufficient sleep, three-fifths of those at sixteen but only one-fifth to three-tenths over this age.

Chisholm in England examined 500 high school girls and reported 15 per cent suffered from constipation. Lovett's studies claimed that from 5 to 15 per cent of the high school girls were handicapped by constipation, biliousness and indigestion.

Eighteen per cent of our Toledo high school girls studied are troubled with constipation, and a study of their questionnaires showed that the probable causes are sedentary life, lack of exercise, late rising hours, insufficient water drinking and indiscretions in diet, such as going without breakfast or improper food. Only one-tenth of the girls of the ages of fourteen and fifteen complain of constipation, but an increase in the number with age is noticed. At the age of eighteen about one-fourth of our girls appear to be disturbed by this condition.

Key's study of Swedish adolescent girls states that 36.1 per cent suffer from headaches. Lovett in Boston found this number to be 30 per cent, while 37.2 per cent of our girls appeared to be distressed in this manner. As a cause Hall calls attention to changes in arterial pressure and specific gravity of the blood. Sachs cites numerous causes of headaches, the chief ones which might affect our girls being anaemia and malnutrition, eye-strain and auto-intoxication. Woods Hutchinson[11] claims that nine-tenths of the eye troubles, seven-tenths of all headaches and over half of all nervous disturbances, come from the eyes. Cornell states that 70 per cent of the older school girls who suffer from eye-strain also have headaches. Among the other causes of headaches of school children cited by authorities are infection of nose and throat, poor ventilation, fatigue, coffee drinking, menstruation and nervousness.

Of the 37 per cent of girls reporting headaches in this questionnaire, we find the number gradually increases with age, reaching its climax at the age of seventeen. A close study was made of these reports, and nearly 54 per cent of the above number complained of menstrual pains, 48.4 per

[11] Woods Hutchinson. The Girl and Her Headaches. *Good Housekeeping*, March, 1915.

cent are doing excessive home study which may cause eye strain, 43.9 per cent drink very little water, which may aggravate auto-intoxication, 31.8 per cent report constipation, 24.2 need dental treatment and 18 per cent eat no breakfast or very little. In one case it was noted that four cups of coffee and tea were drunk daily. In general, then, conditions increase with age. Below is found a table of comparison, the figures naturally referring to per cent.

Age	14	15	16	17	18
Constipation	11.1	10.8	16.1	20.8	24.3
Headache	34.7	37.3	38.3	46.0	36.5
Painful Menstruation	40.0	28.2	37.0	45.6	58.8
Insufficient water drinking	47.9	50.6	46.9	51.9	60.9

As to the appearance of first menstruation, our average is a trifle lower than that of other investigators, and this again may be due to the small number studied. Engelmann[12] found the average age to be 13.8 years; Lancaster[13] 13.6 years, Kennedy[13] 13.7 years, while Chadwick[13] and Currie[13] 14.5 years, all of these records being of girls in the country. Our Toledo high school girls reporting average 13.0 years. Six of the ages of fourteen and fifteen reported menstruation not yet established. In three cases puberty was reached at the age of ten, and in fourteen cases at the age of fifteen and none over that age.

It was difficult to obtain data as to the regularity and character of the flow. One peculiarity was noted, however, which fact might not be borne out had more data been obtained, i.e., practically all the girls who began functioning at the age of ten and eleven years, have menstrual period lasting about a week and in all cases they are of the pale and anemic type.

Authorities claim from 70 per cent to 75 per cent of girls report functional disturbances. Our reports show that menstrual pain is prevalent to a great extent at the age of fourteen, 40 per cent of the girls reporting it then, just when the body is adapting itself to the greater demands. This per cent drop at the age of fifteen and then we find a gradual increase as sedentary life becomes more established. At the age of eighteen nearly 60 per cent report menstrual disturbances.

Dr. Mosher[14] believes her sex to exaggerate their menstrual

[12] George J. Englemann. The American Girl of Today. *American Physical Education Review.* Vol. 6, Nov. 1, 1901.

[13] Stanley Hall. Adolescence. Vol. 1, p 475.

[14] Clelia Mosher. Functional Periodicity in Women and Some of the Modifying Factors. American Physical Education Review. Vol. 16, No. 18, 1911.

ailments and when asked as to pain are apt to describe the last period. Chisholm believes that lack of warm clothing, constipation and sedentary occupations are responsible for pain at this period. Dr. Mosher believes the pain psychic, but is aggravated by tight clothing and faulty hygiene. From several years' experience in caring for ailing high school girls, the writer believes that Chisholm's points are only too true, and at the present day cannot agree with Dr. Mosher that tight clothing can be considered a factor, as in only one instance of a few hundred girls cared for during the menstrual period or other minor ailments, has tight clothing been observed.

A common ailment of our high school girls is hysteria. The number of cases of hysteria and fainting appear to increase towards the examination time, excitement at times of athletic celebration, at menstrual periods and other occasions which tax the nerve energy of our girls. The modern high schools of today are providing for more consideration for girls at the menstrual periods. Lovett learned that at a high school near Boston, no girl need take her examinations at this period. The Los Angeles high schools[15] for girls have rest rooms with an abundance of couches for relaxation at this time. Our high school provides but two couches for several hundred girls, and especially ailing girls are allowed to use these and a hot drink and hot bottle are provided.

As has been evident, this investigation is hampered by lack of sufficient data, but enough has been secured to call attention to the following points:

(1) Early home training as to diet, sleep habits, water drinking, use of tea and coffee, out-of-door exercise, care of the teeth, nose and throat cannot be too strongly emphasized. (2) The question of excessive home study needs investigation by proper school authorities and parents. (3) Constipation is altogether too prevalent and is preventable by heeding points indicated above. (4) The school should be more lax in its demands on a girl's vitality, especially during the menstrual periods. Adequate rest rooms should be provided and girls encouraged to use them. (5) A competent physical director, with the cooperation of a woman physician, is needed in every large high school. Corrective gymnasium work should be greatly emphasized. (6) Regular medical inspection of all girls should be required. The attendance of the girls' mothers at such an investigation should be sought. (7) A thorough course in hygiene should be taught with sufficient

[15] Bertha L. Smith. Mothering a Thousand Girls. *Good Housekeeping*, December, 1910.

emphasis upon sex hygiene. Both should be given in all years of the high school, the kind of lectures being adapted to the age of the girls. (8) Every large high school is in need of a special adviser for the girls. A woman physician is to be preferred, and if such a one is not obtainable, a woman of broad sympathies, much experience and a biological training could aid. (9) Adequate emergency supplies should be on hand and convenient to the room, where sick girls are cared for. (10) Close supervision of a high school lunch room is necessary. (11) All teachers of high school girls should have studied courses in adolescence and hygiene. (12) All mothers and teachers of girls should always bear in mind John Tyler's saying, "Health comes in through the muscles and flies out through the nerves." If this last point were observed, what excuse could be given for this investigation?

SOME ADVANTAGES OF SEX-EDUCATION

By Mabel Stevens

"I don't want to be desiccated, Mamma, I don't want to be desiccated!" howled a little girl on her way to school for the first time. We too may not want to be educated: chiefly, I fear, because some of our pet theories and beautiful ideals will dry up and be powdered to dust in the process. Nevertheless we must not hold back when the hour comes, and to-day the hour has struck for a radical change in the foundation work of education. The earliest years influence forever the entire history of the individual, not only in the matter of religious views and practice, but in whatever direction a soul may progress; also the extent to which we progress is limited largely by the way in which we react to babyhood experiences. We forget them or repress them, yet they continue to be active in moulding our future. In connection with his far-reaching investigations Prof. Sigmund Freud, of Vienna, has done more to convince the world of the importance of the first impressions received by a child than any other psychologist who could be named. We are indebted to him and his followers for the most intimate knowledge of child-life ever obtained. That knowledge points to the necessity of a re-education which shall include predominantly a sex-education. The advantages to be gained thereby are so numerous that only some hints as to what they will be have been disclosed thus far. Let us hear what some of these advantages are, and why we are entitled to great expectations.

Let us begin at the little end of our horn of plenty. In the first place, it is highly probable that we shall be saved from the most humiliating situations and be spared many mortifying experiences. This may appear a mere trifle, but there are thousands of people ready to give more than a sigh of relief over even the hope of such a release. We all know that there is a necessary part of one's education not to be had in school or Sunday School. Lacking that knowledge, we may make many a "bad break." Now why are things of a sexual nature, for instance, the very ones to bob up unexpectedly from the depths of the hidden self? We begin to understand ourselves better when we have the needed explanation — It is because they are the ones subject to the most severe repression

and the greater the repression, the greater the desire to escape from their prison in the subconscious region of the mind. When the conscious-ego is off guard they rush into the open indifferent to consequences.

An over-sensitive maiden lady once wished to have the word *sex* omitted from the dictionary. Unkind neighbors laughed and said,— "Yes, to be sure you will find sex there, but you can search in vain for sex in that old maid." "Pray! What is the difference between an old maid and a maiden lady?" "Why! don't you know?" the heartless scoffers would reply. "A maiden lady has had offers of marriage, but an old maid never has. It is easy to see that yonder scorner of sex has neither loved nor been loved." Thus was voiced the general condemnation of such a departure from normal life. We are told that the term *sex,* taken in its broadest sense, most nearly corresponds in meaning to the German word *lieben.* To love or not to love, that is a question which each person settles for himself, satisfactorily or unsatisfactorily. Years ago, when lovers were seen together, it used to be said,— "Oh! they are merely conjugating *amare.*" Evidently our maiden lady (we insist on calling her a maiden lady) had done nothing more. She should have done more. She should have married. *Amare* makes us think of a purely animal passion, or of a consuming fire of love beyond control. How old-fashioned that seems compared with the modern scientific interpretation of love! The Teuton definition represents something more. It requires words from a living language to express the most advanced thoughts on the problems of the Twentieth Century. One of the problems is that of sex-education. If the individual's usefulness can be increased by a study of sex, then the world has a right to demand his education along those lines. In order to realize why the need of it is imperative, we must have a fair idea of what may be included as properly belonging within the field of work, and how many human interests will be affected by more enlightened views.

The sexual instinct, being concerned with the renewal of life, must fight every attempt at extinction. If the creative instinct meets a barrier in its natural path of activity, the vivifying power can turn into other channels. When it is thus deflected from the sexual and directed to various social aims, we speak of the process as *sublimation.* But when no accident happens and the pressure toward reproduction is relieved in the way originally intended, the power is by no means exhausted and part of the energy is occupied with creation in various directions. Religion reveals traces of its presence. Many religious rites have a sexual basis — circumcision is one

instance. Much of ancient and modern art makes no effort to conceal the workings of this instinct. Literature, in particular, poetry, is full of sex-symbolisms and sex-fancies. If we start on a mental tour of observation to note the sex-impulse whenever signs of its influence can be detected, there is no telling how far we must go. Had the excited maiden lady but known a few of these things she might have been willing to admit that *sex* has a legitimate place in the dictionary, and that disgust over the ordained conditions of life will not alter them. A thorough-going sex-education would have kept her from making a fool of herself. One of the good results of the newly acquired knowledge will be to prevent people (especially women of a certain or uncertain age) from making ridiculous remarks. Security from a speech-calamity would indeed be a blessing to the adult members of the community; and what should we say if the *enfant terrible* had seen his last days?

The method of reaching the subconscious-ego and discovering its desires, hopes, and needs has been called psycho-analysis, since it helps the individual to search his own soul. The conscious-ego and the subconscious must both be taken into consideration, for manifestly to know one's self (as we are recommended to do) cannot be done unless one knows all about the entire self. There should be no secrets of the self from the self.

A psycho-analysis not only spares us humiliations, but acquaints with our concealed motives for action. It explains why we do as we do. So a psycho-analysis would have been the salvation of the woman distressed over the word sex. We may now profitably look into her case still further. When we are angry and do not dare to let our wrath blaze forth toward the real offender, we "take it out" on almost anyone else. "What have I done to deserve all this?" the poor victim will cry. We have not the face to tell him — "You? you have done nothing, absolutely nothing." We may be ashamed of our conduct; but the main thing is that the anger has been worked off. Some human being must suffer, if we cannot lay hold of the right one; therefore the brain-storm has spent itself upon a substitute. The same thing is true of the maiden lady's pent-up feelings; they had to belabor a substitute. Did it but chance to be the word sex? Ah no! No Freudian believes in chance. They fell upon the word sex because her thoughts had been occupied with the subject of sex. Did her wish indicate solely an objection to sex in general? Or was there a more personal element contained in the protest?

Amare! Yes, there was passion smouldering beneath a deceptive exterior. Her intense feelings of revulsion to the

thought of sex but measured the strength of that passion. She had hoped to see it burst into flame. Without doubt, she had provided herself many a time, in day dreams, with an ardent lover, or perhaps even a faithful husband and numerous children. She was not so devoid of love as her neighbors had believed. It is quite likely that no old maids dwell in our castles in Spain.

Now, bearing in mind that opposites may often stand, the one for the other, we could suspect the existence here of a subconscious wish exactly contrary to the spoken or conscious one. This would be in keeping with the disguise already carried through — since sex, the word, is a disguise for sex, the fact. Let us say, then, that unknown to her conscious-self there must have been a secret craving for what was thus openly despised. Instead of crying out,— "Oh, I wish there were no such thing as sex!" her very soul was shrieking for love. But social standards do not permit the wearing of one's heart on one's sleeve; hence no other course can be adopted by modesty save to give negative expression to longings of this sort. Along an indirect path they may force their way out of obscurity, on one condition however — that their possessor does not realize what has happened. If he becomes aware of it, then modesty has no screen and immediately makes a great "to do" saying,—"This must not be." Then the performance stops abruptly. The play has been censored; it cannot go on. A psycho-analyst would have had no difficulty in discovering what was the trouble with the emotional maiden lady. If she had known it herself, she would not have become the laughing-stock of the neighborhood. To her subconscious-ego the apparently senseless act was not senseless. Sex-education would have made this clear. "Ye shall know the truth, and the truth shall make you free."

Another advantage to be derived from a sufficiently broad sex-education is that it helps parents to understand their children, and teachers to understand their pupils to an extent not possible heretofore.

When an infant arrives the average mother will call it "a perfect little angel." Is the word sex to be mentiond in the same breath? Naturally not! Here is a darling Innocent just come down from heaven, from the kind Father of us all — for "Every good gift and every perfect gift is from above." Of course this is a beautiful way of acknowledging the source of our blessings; but Science shows that even in the bestowal of gifts the Creator follows the laws of the universe. The infant is with us because of the law of reproduction. We may well consider it a privilege to do our part toward the well-

being of the child; and it stands to reason that the more knowledge we have the better.

It is difficult to understand why sensible men and women should raise a hue and cry over Freud's observation that the germs of sexual life are present in the infant from the beginning. Many people have fondly imagined that the infant has no sexual life. This belief has come from the idea that purity and innocence are peculiar to the child; and to admit sexual life there would seem to shatter this pleasant conviction. Why? Because a sexual life and an impure life have been known, only too often, to be identical. The force of association is too strong, and it is a shock to one's nerves to think of an infant as having a sex-life. An unprejudiced scientific view of the sex question will no doubt change, in time, this reluctance to see that sexual impulses play a large part in the life of a child. As a matter of fact they do; and this conclusion has not been reached save after long and pains-taking observation. The almost universal infantile masturbation is evidence for this statement. The sex life of the infant is not like that of the adult. It is auto-erotic; that is to say, it is occupied solely with the child's own body. Nevertheless the activity is as truly sexual as that which succeeds it in later years. If we think of the ante-natal period, we must admit that long before we are born sex is intimately connected with our very existence. Why should sex suddenly cease for us, and not appear again until puberty? It would be reasonable to expect a quiescent state for a while, but to claim that sexual life was absent altogether would be to make an absolute break between past and future. The periods of infancy and childhood would then be a comparative waste of time, and that is contrary to Nature's economy. "Childhood prepares for the sexual life," you say. "Childhood is a period of development." True! But who can develop something out of nothing? At least the germs of sexual life must be there. We might have an expurgated dictionary, but it would not be of much use.

Granted, then, a sexual life as a factor of child-life, what comes next? It follows that we have a broader horizon and can observe the child from a greater angle of mental vision. For the present, however, suppose we turn our gaze in one direction.

It is easy for "the perfect little angel" to become "a perfect little tyrant" in the sheltered home-kingdom where he lives a life of perpetual wish-fulfilment. These wishes have to do with his body exclusively at first; but though some of his sense gratifications are of a sexual nature, of course he knows nothing about that. He cannot be aware of his own sex, nor

of a sex-distinction in his devoted subjects, the other members of the family. He does not know why father is father and mother is mother. This is true for a long time. At last, one day, he notices that they are not dressed alike. What does that mean? He is old enough to see this difference, yet not old enough to realize its significance. Probably in his own case he has to be told much later,—"Little boys wear knickerbockers, little girls wear skirts." Even then it is doubtful if he understands that sex is indicated. Yet he may have a dim idea of it, especially if a child of the opposite sex has come to contest his supremacy in the kingdom. Then strange thoughts enter his mind. He sees the new baby washed and dressed. The mysteries of the toilet suggest other mysteries. Comparisons arise, and with them numerous questions. Will they be answered? Perhaps not in the right way, perhaps not at all. Is he satisfied with the replies? In that case the questions trouble him no more. Is his curiosity thwarted? Then the excitement must find a parallel path of escape. He begins to ask all kinds of questions, except the one he is "dying" to have answered. This process of transference gives relief to the nervous over-tension. If he must not ask certain questions, he will ask countless others. If he is to be tormented by uncertainty, he will torment his tormentors. He will plague them unmercifully. Is this retaliation due to malice aforethought? Sometimes, but usually it is hardly so much that as it is the response to an over-powering impulse. "Why do you pester me so with questions?" many a tired mother has exclaimed. A Freudian sex-education would call attention to the sub-surface causes of her child's annoying persistence. Civilization has built the high fence of Propriety directly across the road to the knowledge of good and evil in matters sexual. Look! Master Curiosity is kicking at the fence. Come, let us open the gate a little. If he tries to climb over the fence, he may fall. Better help him now. "It is too early, far too early," the weary parent assures us. "He is only a baby, he cannot be thinking of such things." But if we find he is, what then? Children dearly love surprise parties. At the age of four years, a little girl known to the writer, was in a crowded restaurant. Suddenly she called out at the top of her voice,—"Mamma, You couldn't have had Helen and me if you hadn't married Papa, could you?" For several minutes the child had been remarkably quiet. Who would have guessed that her thoughts had been prying open a mystery-box? A psycho-analyst, observing her pre-occupied air, would have suspected the fact, and there was the proof of it before

many witnesses. That child deserved to be given a truthful reply — at home.

This case is not exceptional. Almost all children are overbusy, for a season, with sex-problems of various kinds. The most perplexing one is that of their own origin. "Where do children come from?" is the question of questions which the individual child will not let go until some answer is either self-provided or else received from an outside source. Contrary to general belief, we find that the months between the ages of four and five years mark off a very active period when the child's imagination occupies itself with sex-fancies, some of them of an astonishing character. After having heard the word "hush!" spoken a great many times, finally it dawns upon him that it is not "proper" to talk of certain things, and hardly so to think of them. Yet they are most interesting. However, by degrees he yields reluctantly to the inhibiting-force set in motion by our social and ethical ideals of correct conduct. What he should not remember, he tries to forget But Freud has shown that much of the apparent "forgetting" of childhood experiences and emotions is repression. The prevailing conviction as to the average child's complete ignorance of forbidden subjects is due to this instinctive concealment. The child feels disapproval keenly. To avoid it he will tell lies and pretend not to know many things of which he is accused. Secrecy is forced upon him. This is always an unfortunate state of affairs. It has given rise to the mistaken impression that the child's erotic understanding has not been awakened previous to puberty. Things which we must not and do not mention sink below the threshold of consciousness when their presence has become unbearable in the upper chamber of the mind. We all know how hard it is for a child to keep a secret, but it is kept indeed when it is thrust into the subconscious hiding-place. Memory, unaided, cannot reproduce such buried material. For that reason it seems non-existent. We should not allow ourselves to be deceived, however; and we should think of the child's health, which may be seriously affected by repression.

When should the sex-education of a child begin? Consistently from the hour of his birth. This idea is also different from the commonly accepted one which has reference chiefly to sexual enlightenment and postpones the date until puberty. Adopting Freud's views, we see that the sex-life of the infant must be regulated and guided, as well as that of the older child. It is now manifest how gradual sexual enlightenment should be, keeping pace with development of mind and body. How may we know when the time has arrived for definite in-

struction? Some of the signs of erotic-excitement are irritability, restlessness, wakefulness, or else terrifying dreams; so-called "causeless fear," which is really well grounded subconsciously, is strong evidence of sexual emotional tumult. Also the familiar incessant flow of questions is another indication that the child has come in contact with the sex-problem. It is the child's prerogative to ask questions; but when they are very extraordinary or when the same question is asked over and over until the listener is almost frantic, then we may be quite certain that a big question is lurking behind all the others.

Before the customary "school age" the future of the child has already been determined to a large extent. His earliest reactions give direction to later ones. Before the three R's come along, his little slate for life's school-work has been filled *once* at least. The pity of it is no writing can be erased, though it may be blurred. Therefore it is all the more sad that in spite of care many evils may befall a child even in the home. Hence it will be well to use an extra "ounce of prevention" by introducing there some of the Freudian principles of education.

The teacher is quick to detect the kind of home training that pupils have received. To supplement it, while making good possible deficiencies, is an arduous task. Here again some knowledge of psycho-analysis is invaluable in seeking for motives of conduct. A single illustration will suffice.

We have seen the child's persistence in asking questions; but how about answering ones put to him? That is different. What is the reason for his refusals? They cannot all be from ignorance. Of course there may be several causes. Observing him, we venture to offer one explanation. We speak of being "bombarded with questions." To the child it may seem very like an assault. It compels him to take the feminine rôle of submission; and he does not like that. He knows well enough what it means. He has an object-lesson at home where father rules and mother obeys. Once he was king there himself for a little time. The memory of it is sweet. Power must be kept. Power gives pleasure. The command, "Answer me!" is an affront to his importance. Must he yield? Must he submit to being questioned? Never! He is not weak; he is strong. Silence is strength; silence is resistance to force; silence is a form of self-assertion. Silence does not give consent. Silence says, "No! You cannot compel me. I shall do what I like. That is what father does."

This train of thought may not be a process in full consciousness; but it represents the child's deepest feeling, for his

greatest wish has always been "to be a man." Father is the child's ideal of strength and power. A child's refusal to answer questions has usually been attributed to shyness, diffidence, or fear, but seldom to ambition. Perhaps the cause of cases familiar as "senseless obstinacy" may be in the "masculine protest" so well described by Alfred Adler. We say, the child wants his own way. But what is his own way? It is to act as if he were already a man. Father is the perfect man; and father has his will; so the more the child has his own will, the more he thinks himself like father. By furnishing one factor of the ideal, the other factors must materialize of course. This is the child's immature reasoning. To him the presence of the part implies the whole. Given the plums, and you have the pudding, in imagination. The male child envies the father and longs to supplant him. The female child admires the father and longs to appropriate him. The male child protests against waiting for the day of his own manhood. The female child protests against being "only a girl." Children may be trained to submission, but inwardly they revolt. They look forward to the happy future, the time when they can be commanding not obeying. They are eager to be "grown up," to be in authority. Even the meekest children have expressed longings of this nature. Impatience spans the intervening years with far-reaching aspirations. Every self-assertive act declares,—"Ich will ein Mann sein." Surely, as Longfellow writes: "The thoughts of youth are long, long thoughts."

Companion to the child's desire for power is his demand for love. This brings us to another point. A liberal sex-education shows the advantages to be gained by an understanding control of love,—the child's love for us, and our love for the child. To feel the necessity for moderation, we must consider these two aspects separately.

When it comes to affection we read an absorbing chapter of child-history. At the very first the infant appears to love all people indiscriminately. He has no sex-predilections; or rather, he inclines toward both sexes. His emotional life is bi-sexual. Whoever ministers to his comfort and pleasure, that person is loved. As mother is most needed, for a while, she stands a better chance of winning affection than father does. After a time, however, even her devotion will not prevent the female child from exhibiting a preference for father, and frankly adoring him. A male child, on the contrary, will feel the attraction to mother growing stronger. As the opposite sex seems more and more desirable with the passing days, it is not at all uncommon to hear children wish to marry. A little girl, brought up on the Bible, once said,—"Why can't

father have two wives, the same as the patriarchs?" Then she announced,— "I am going to be his other wife." The little girl of four or five years thinks she would make father a beautiful wife; and the little boy wants his mother "all to himself." Primarily the male child envies his father the power to keep mother.

We know of families where the girls love mother better. In such an instance probably mother will be found to have more masculine traits than feminine. It may be the child is taught that he ought to love father and mother exactly the same; but Nature is stronger than precept. It is predetermined that under normal conditions the male will love the female, and the female will love the male. Therefore the boy's first love is mother, the girl's first love is father. This intense love is by no means always good for the child. He is liable to cling to the beloved parent too passionately, too selfishly, too exclusively. The more a child has of love, the more he wants. He has not learned that love has limits. This determination of his to receive boundless love suggests the way out of a difficult situation. His inclination to bestow love (on the principle that love begets love) may be turned into other forms of activity than giving endless caresses. And the pleasure gained through the new interest will be a substitute for the love-pleasure which he craves so much. He may be led to enjoy music, art, the wonders of the world about him, etc. If he has inventive genius, it should be encouraged. In the beginning he takes up these things for love of somebody; later, if the sublimation is successful, he loves the things themselves. For example, the true student loves study, in and for itself, quite regardless of whether it brings him a living. Since there are infinite possibilities for sublimation, the child's native endowment should be able to reach expression. Psychoanalysis reveals what these are. It helps us to see clearly what sublimations could be reasonably expected in a given case.

And now a word about the love of parents for children. Is there danger of giving them too much? We cannot deny it. It is likely to happen — particularly if the parents are disappointed in each other. A corresponding response on his part to excessive love on theirs will tend to keep him infantile in dependence upon them. He may become unable to break these cords of love and form new ties. In the ordinary course of events a repression takes place during adolescence, and then the son or the daughter is free to love a stranger. Yet the mother-image or the father-image remains the ideal for all subsequent love. Naturally this limits the selection of a mate

and explains why some people fail to marry. They never meet anyone who approaches their ideal. If the fixation is so strong as to prevent other attachments outside the home, the main purpose of existence is defeated. The perpetuation of the race suffers. The model husband loves his wife as himself; and the love of parents for their children is also a gratification of self-love. This is perfectly right within the confines of common sense. When the welfare of the child is put in jeopardy most parents will sacrifice their own happiness. As a rule they would be the last to prevent the marriage of their children. We believe that the strength of emotional fixations has not been fully appreciated. A Freudian education aims to destroy their power and diminish the number of lamentable tragedies, for it is a tragedy not to fulfil one's destiny. According to Divine plan, as at present operative, there can be no such thing as eliminating sex. If we could do so, it would mean race-suicide on a colossal scale; and that would end human history. In adapting ourselves to conditions the sex-problem meets us everywhere. Let us welcome every aid in solving it. We are now to benefit by the experience of an entire school of physicians who maintain that a comprehensive knowledge of self must include, not a few facts about sex, but a systematic sex-education.

A CHILD'S IMAGINATION

By Margaret Morse Nice

What do we know about the imagination of children? With some it is too absorbing; with others it seems almost lacking. How can we stimulate or curb it? Must it come to an untimely end at the age of six or seven or by some means might the originality and creative power be carried on through later childhood and the whole of life? By the right stimulus at the propitious moment could we prevent people from becoming as utterly commonplace as most of us are?

These are questions not to be easily answered. We have a wealth of material, for every child is a potential subject for study, while some are so wonderfully original that it is a pity more parents do not keep a record of the imaginings of their children, thereby preserving something that would become a treasure to themselves besides being of value to others.

The present paper is a small contribution to this subject. It is a study of one child's imagination with an attempt to analyze the favorable and unfavorable stimuli and conditions in her case. Although she would not be called a highly imaginative child, yet in certain well-defined periods she has shown striking and original powers in this direction.

I have kept a record of nearly all the stories she has told, writing them down while she related them or as soon as possible afterwards. Before she was seven she had no idea that I was recording them except in two instances. She has always been sure of an interested and admiring listener in her mother. Often we have taken turns in telling stories, but usually she has said she could not think of anything; her inspirations came when they would and could not be called upon arbitrarily. After her sixth birthday she may have imagined to herself at times; however, since appreciation is usually welcome to an author and also because of the fact that by telling me a story I was bound to tell her one, the probabilities are that she told me everything that she invented in story form.

This child, E, is the eldest of four children. Both her parents are scientists, her father a physiologist, her mother a biologist. Her maternal grandfather was a historian and writer with an unusual gift for expression; three of his children are writers by profession, two being poets and dramatists.

Her health has always been vigorous. Her vocabularies[1&2] from eighteen months to six years are somewhat smaller than the average of those that have been published, which would indicate that she is not a precocious child. She seems to have a logical and scientific mind for she inquires to the bottom of things. Her specialty is nature; from babyhood she has loved flowers and animals and birds.

The aim of her parents has been to give her the truth as to the world about her instead of fancies, and to encourage her to find out things for herself whenever possible. Over-stimulation has been guarded against, probably at times too much. There has been little attempt to teach her things unless she has asked about them, but she has heard much of the best of the literature suited to her age.

Imagination in Her Play with Toys

The way in which children play with toys differs widely; some plays are simple imitations of their own or other people's activities; others are dramatic, imaginative adventures, while between these extremes there are all gradations. Most of E's play would come about midway between the imitative and highly imaginative. Only twice has her play been of this latter type; when she was six and a half years old and again at eight and a half. In general she has cared little for toys, almost never playing with dolls, while she has not had any particularly cherished object about which many children weave fancies.

Dramatization

She has dramatized very little, i. e., pretended herself or her playmates were animals or different people and acted accordingly. The more important instances will be noted in this paper.

Imagination Unconnected with Play

This study will confine itself to her creative imagination that had no foundation in an object or in play—fancies spun out of her brain alone. The main aspects of her environment, her social and cultural stimuli and her activities will be touched upon in the description of the periods of imagination and the intervals between them, in the hopes of finding some of the factors that conditioned her creative moods.

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[1] Nice, M. M. The development of a child's vocabulary in relation to environment. 1915. *Ped. Sem.*, XXII, 35-64.

[2] Nice, M. M. The speech development of a child from eighteen months to six years. 1917. *Ped Sem.*, XXIV, 204-243.

Her environment has had two chief features; she has spent the fall, winter and spring in a small town in Oklahoma and the summers in the country in Massachusetts. She has been much at home, never having gone to kindergarten, nor to school until she was seven, therefore her cultural stimuli have been known and controlled. Her chief playmates have been her younger sisters and her boy cousins.

Imaginations Until Three Years Old

Until she was three years and five months old, E showed very few signs of imagination. The first instance was dramatization when she was two years and four months old; she came running to me with a pillow, saying: "A great big lion is comin' in wid dis pillow. You look like mice." Her grandmother borrowed my watch; E said, "A mouse borrowed your c'ock;" then later, "A 'gunk (skunk) borrowed your watch." "A 'gunk comin' in a cawwiage wid G'amma,"—this time it was herself.

When two years and nine months old, she told me, "Bad wats (rats) are under your desk." She threw beads on them and then nearly burst into tears when the waste basket at the side of the desk was carried off. "A wats will come out!" Another day she played there were bears there. "Bears are takin' dust baths——dat's what a hens are p'ayin' (playing) at. Big Bear says to a Little Bear: 'Don't 'day (stay) in dere anyhow. Come out on a 'dweet (street).' Little Bear comes hoppin' out on a chair."

When three years old she was sitting by her baby sister and told me, "We're p'aying we're two little boy witches." Another day she was climbing over the head of the bed and said: "Lions will help me up. Dey are fwiendly lions. Dey have fwiendly teeth. Dey have cotton on deir teeth."

She was fond of singing to herself at this time, "A Widger is a Wadger." Once she explained this statement as follows: "A Widger-Wadger is a kind of goat what wears a pink dwess. He has a kind of wapper on when he goes to bed. Two little baby ones say: 'Widger-Wadger, we go on a walk. Well, where shall we go?' And a mudder takes him on a walk, and a fader. And when he goes to bed he has some water, because he's very sick. He s'eeps in a big bed. Widger-Wadger, did you hurt yourse'f?"

These were the only instances of imagination she showed except in play with toys before her third birthday.

First Interval

From Three Years to Three Years and Five Months. July, 1913, to November, 1913

Except for a little dramatization—pretending she and the baby were foxes, frogs, rabbits or skunks—E seemed to be entirely lacking in imagination at this time. From September to June she lived in Norman, Oklahoma, a town of 5,000 inhabitants. Our house had considerable grounds around it with good trees for climbing, one of E's greatest pleasures. She saw little of other children during the fall. Her only pets were hens. She did not have much cultural stimulus at this time, hearing some fairy stories and poems of Blake.

First Period of Imagination

THE BABIES, THE HANEATER AND STORIES

From Three Years and Five Months to Four Years. November, 1913, to June, 1914

The Environment

Until the middle of January there was no change in the social stimulus; at that time I started a Montessori Nature Study School which lasted until the middle of May. The main benefit E received from the school was the social training through being with other children. I told them fairy tales and nature stories, and rhymes from Mother Goose and Christina Rossetti, while E heard many stories and poems besides. For pets she had in the winter frogs, turtles and rabbits, and in the spring snails, crawfish, toads, tadpoles and horned toads. Her father's bees were a great source of interest. The walks to get creatures for the acquarium and to find new flowers were among her special delights.

THE BABIES

One day in November after she had been down cellar, she told me she had some babies down there and had been playing with them. Next morning they were "p'ayin' wid a calf. Dey love calves." "Dey are p'ayin' in a sandpile. Dey are girl babies." "Dey are a'seep." "Dey are takin' a walk. Dey are big babies. Dey are nice tame babies. Dey like to p'ay wid me better dan D (her sister) does."

Another day she said: "Dey go to 'gool (school). Dey have a 'gool for deyselves." "One baby named B'ackie is sick. I was givin' him somepy to eat."

She told me that the babies and she lived in a little blue house. She cooked, sewed, swept, washed dishes, cared for the babies, and so forth. "I cook milk and I 'derilize (sterilize) milk." "I buyed my babies at a chocolate 'dore (store)."

For two weeks we heard a great deal of the babies; they did everything she did, always going on walks with her.

December 17th, she announced: "One of my babies grew up and has a baby of his own." "D isn't a quick baby like mine." Ten days later most of her babies had grown up. "Dey ate so much food, dat was why." Although still designated by the same name, they did all sorts of remarkable things, from laying the new sidewalk to building the neighbor's house.

Her imagination simply ran away with her now. Everything we would mention, she could duplicate. I told her that sometime she could have a little dog. "I have a dog now," said she. The gasolene for the stove gave out, and she came to the rescue with: "You can have some of my gasoline, mudder. It's updairs. I can cawwy it down; it isn't very heavy." And finally: "I have a labwatory. Would you like to teach in it, fader?"

It certainly was a great change in two months from no indications of imagination to an imagination so absorbing that we began to wonder how we could curb it. The babies had flourished for a month and a half and imaginary possessions for the next two weeks; then the little school began and so filled her mind with real things and the companionship of children that she quickly forgot both babies and imaginary possessions.

The babies were evidently a kind of "imaginary companion" such as many children invent.

THE HANEATER

The Haneater was invented shortly after the arrival of the babies and lasted longer. On November 25th, she told me about a kind of a pet she had, called a "Haneater."

"It eats hands what are broken off of killed people. It eats eggs and salmon on bread, like people. It f'ies (flies) awound and f'ies awound. It s'eeps in a hen house. It eats paws of hens — dat dead hen in a woad. I can pat it and pat it."

It seemed to be like a large rooster, white with some black and red on it. It laid monstrous big eggs. E had to put food way down its throat. "He pushes it in wiz his foot."

The starting point of her fancy may have been the sight of some hen's feet in a neighbor's yard.

She told us a great deal about the Haneater from now on. He went on walks with her. It was dangerous to pat him on the head for he "might eat your hand," but it was safe to pat him on the back, the wings or the legs; her babies did. There were a father, mother and several baby Haneaters.

"A Haneater is my best pet. I feeded my Haneater."

"A Haneater is goin' to hang up his 'dockin' (stocking). He has wed 'dockins." Santa Claus gave him a dog and a toy Haneater with which he played — all imaginary.

We heard of him often all through January.

"A lion and a Haneater
Jumped over a high fence,
And den dey looked awound
To eat some grass."

"Dey eat grass and worms; dey are very fond of worms."

"A Haneater hasn't any 'dockins; dey got all tored to pieces. He has some lellow (yellow) 'dockins but he hasn't any shoes. Dey are made of paint."

After a dusty windy walk she told us:

"A Haneater likes a wind and a dust. He just *lumps* awound in it. Dust doesn't hurt his eyes; his eyes are diffwunt. Dey are wough (rough) like 'dones (stones). His feaders (feathers) don't come out very much. Sometimes when he f'ies, dey come out. He 'gwatches (scratches) hisself to make dem 'day (stay) in."

We heard very little of the Haneater after the school began, but one evening in April she told me about him as follows:

"He's very fierce now. He fights a Maxwells (neighbors) and pecks 'em, so dey hop into deir house. He tries to kill people. He doesn't peck me, but he pecks Guy (a playmate); he sinks it's a joke to peck Guy but Guy doesn't sink it's a joke; he wuns away. I carry him in a box so he can't peck people. Sometimes he f'ies up in a c'ouds."

"A mudder can't leave her babies. A mudder Haneater and baby Haneaters are gentle. Dey don't peck people."

Again she said nothing of the Haneater until June 23rd, when she told me: "I know a 'dory (story) about a Haneater. A fader Haneater laid back his head and sat on a eggs. He hatched out baby Haneaters and dey were very good about catchin' bugs for deyselves. A fader Haneater wasn't very good about catchin' bugs for dem. A mudder Haneater sought she would hatch some baby Haneaters. She said: 'I will hatch two mudder ones and one baby I will leave in a egg. It's a *wotten* one and I will just leave it."

"Mudder, why do you call them Haneaters?"

"You named them that yourself" said I. "Why did you call them that?" "P'raps I sought it was a pretty name."

On August 11th was the last time she volunteered anything about the Haneater. "He came out of a hen house and f'ew over a train tracks and settled on a train and rode somewhere. He built a nest in a tree. He gets cats for his babies. Sometimes he gets crows. He f'ew way up in a 'gy (sky) awound and awound. He wescued old horses so dey would never die. He gives 'em lots of food. Some people get little when dey eat much food. A horse got some wings made for him and went f'yin' all over a world. 'Who made dese wings?' said a horse. 'Me,' said a Haneater."

After this when we inquired about the Haneater he and his family appeared to be scattered over Europe viewing the war. Father Haneater fought lions, sometimes with guns and sometimes without. One day in answer to a question about him she settled the matter once for all by announcing, "I just dreamed about a Haneater."

The Haneater is the most unique of E's creations at this age; she invented a character of force and originality, and always was consistent in her descriptions, although months elapsed between her different tales. I read her these stories of the Haneater when she was seven years old; she appeared to disapprove of his character and remarked, "I wouldn't like him." However, when eight and a half she was much amused over him.

HER STORIES

The stories began a month later than the Babies and the Haneater, and instead of being unfavorably affected by the school they gradually increased, but reached their zenith in May and June, just after the close of the school, after which there was a rapid decline as soon as we went east.

E told her first story except those connected with the Haneater on December 7th. "Lions went out to walk. Dey got lost. I drove 'em back wiz my 'driped (striped) suit on." This imaginary suit was "lellow, brown and b'ack. It has a mitten to it; one mitten is lellow and one is b'ack."

On December 28th she told several stories that may have been suggested by the book of Aesop's fables she received for Christmas; at least the characters of the stories may have been so suggested, but there appears to be no plagiarizing of plot.

"A lion and a hen looked at eachoder and dat was fun. Dey made friends and ate corn afore a English 'barrows (sparrows) ate it.

"A lion and a fox were eatin' corn. Dey saw a hen and dey *womped* away from dat hen and ate deir own corn. Dey were afwaid of dat hen."

She told stories from now on, perhaps one or two a week, her interest gradually increasing until in May and June the story-telling reached a climax of several a day. On examination they show two sources: stories told her and her own experiences. Most of them can be placed in one class or the other according to their chief source.

The earlier stories especially are based on her own experiences; animals are the actors instead of herself. For instance, after we had got some frog's eggs for the aquarium, she told this:

"A dragon and a mouse went on a walk and found a toad and a frog. Dey laid eggs and den p'ayed wid 'em."

Another story, told in March, was based on her interest in the bees.

"A fox found a bee-hive and took it home to his mudder. Her looked in it and found all a bees dead. No, dere was one bee in it and he made so *much* honey. Den dey got six bee-hives and had so much honey dey didn't know what to do. Den, a bees were killed."

"What killed them?" I asked.

"A lion, I sink, killed um. Den a soldier came and killed dat lion."

Frogs and toads, crawfish and tadpoles, rabbits, mice and bees are the main characters in these stories. Going on walks is the chief theme, the adventure being either seeing some animals or catching something and bringing it home. Despite her great interest in flowers at this time, they are never mentioned in her stories. Mothers and babies are of much importance. At times these stories were very long and rambling, and occasionally it was a little girl who went on a walk and discovered the animals.

The other kind of tale was based on those she heard. In June she told two stories on succeeding days that well illustrated her method. Her sources were evidently the Indian legend, "How the Chipmunk Got His Stripes," in which some animals wanted it night all the time and some wanted it day, Field's "Gingham Dog and Calico Cat," and a large colored picture of a pig cooking supper for a cat and dog.

"Once a cat wanted it night and a dog wanted it day. A cat wanted it night every time and a dog wanted it day every time. Dey quarrelled because dey didn't have dinner on time. A cat wanted to catch all a mice and give 'em to her kittens. One was lellow, and one was b'ack and grey and all colors.

Cat quarrelled, den a dog made supper earlier and earlier. Cat had supper so early till it got to be very early supper as could be. It got to be a very nice supper when dey had chocolate all a time. Dat person was busy holdin' a 'dripe (stripe) in a fire. One fire burned out."

It is easy to see how the story, poem and picture are responsible for every feature of her story except the idea of having supper early and catching mice for the gaily colored kittens.

The next day's story began thus:

"Once a dog and cat grumbled which was day and which was night. A dog said 'twas day and a cat said 'twas night. A cat 'gratched a dog on his back and made a mark. Den dey jumped on deirjoder's (eachother's) backs." Later the dog made a feast in his house with bran for hens, meat and bones for dogs, milk for the cat, and so forth.

In this story the significance of the day and night quarrel is lost, but she has inserted the scratching of the mark on the animal's back.

Other stories were based on the robbers in the "Musicians of Bremen," on "The Cock, the Mouse and the Little Red Hen," on a dragon story from the "Altenheldenbuch," and on Beatrix Potter's "Mrs. Tittlemouse."

The story enthusiasm reached its height in late May and early June. We left Oklahoma the last of June; in Massachusetts she stopped telling stories almost entirely. She told only four or five in July and August; one about a fox and cricket, and one about lions, tigers and angels, perhaps suggested by Blake's "The Sun Descending in the West" ending with: "A mouse came 'gweakin' (squeaking) out from under a board. 'Sank 'ou,' said a cat. 'I'd like to eat you up.' So he caught dat mouse and ate it." "Once a dragon came and didn't eat up a hens. He found some bread and he gave dat to a people. He got so friendly. Somebody got him tame."

There is little originality about these stories since both plots and characters are taken from real life or stories told her and simply combined in new relationships. There is much absurdity in some of her stories as with most child inventions; the incongruity of having a lion and a hen make friends and eat corn, and a dragon and a mouse go on a walk together, show lack of experience instead of a sense of humor. She apparently mentioned any animal that popped into her head regardless of grotesqueness and told her stories as exciting adventures rather than anything amusing. When she was six I told her some of these tales and she laughed and laughed over them.

She has never since then taken up this same kind of miscellaneous story-telling to any extent, though occasionally there have been solitary examples.

Second Interval

From Four Years to Four Years and Ten Months. July, 1914, to April, 1915

This long unimaginative period comprised two months in Massachusetts and eight in Oklahoma. The summer was full of social stimulus with cousins, grandparents, aunts and uncles. There were no end of interesting things to do—riding in the automobile, wading in the brook, walking in the woods and exploring the rocks. Life in Oklahoma is very tame to the children in comparison to their summers. The first five months in Oklahoma were characterized by a general lack of social and cultural stimuli. D was two years old and a good playmate for E, but they saw no other children except two small boys once a week. They had two rabbits for pets all the year. I told no stories but read some "Hiawatha." In December she heard a great deal of Mother Goose and other rhymes which D demanded incessantly.

From January 21st to April 7th her social and cultural stimuli were considerably greater for the Montessori Nature Study School met at her home. The children heard a fairy story every day and rhymes, mostly from Mother Goose. In April E was given Kipling's "Jungle Book" and asked for "Riki-tiki-tavi" over and over again.

She told a short story in December about a farmer and his hens, and three in February, one about a fish laying eggs on her pet rabbit's head, one about a wren and a chickadee and the last about a robin and chickens.

Second Period of Imagination

larvee and bow-wow

From Four Years and Ten Months to Five Years. May and June, 1915

The Environment

The environment during this period of intense imagination was the same as that at the end of the second interval, except that the school had ended a month before. She was outdoors a great deal playing with the rabbits and baby chickens.

LARVEE AND BOW-WOW

About May 1st I made up some stories about the adventures of a certain "Ducky-Daddles," in one of which a fox was driven away by a friendly dog that E named "Bow-wow." She kept begging for stories of Ducky-Daddles, but soon took up the matter herself. The animals started as imaginary and later their names were attached to small wooden toys. One, however, was a toy first, a little lamb she named Larvee, for what reason we never knew. She played with the animals to some extent, but most of their doings were merely stories told when she was not handling the toys.

Her first story, told May 6th, was closely based on mine: Bow-wow and all the ducks and geese were driving a donkey and were driving a horse. She soon evolved original characters for Bow-wow and Larvee.

The following are a very few of the things she told of them:

"What did Bow-wow spend his whole day doin'? Just takin' rests. Larvee does that, too, and the horse. They go out at night."

"When it comes suddenly light, they go rushin' to take their naps. They hunt all sorts of animals, foxes and wolves, and wolves and foxes. They got their tummies all full of foxes."

"First they started on the tiger and ate it. When they got all the tiger's legs bitten off, then they ate the tiger up, and up and up. Then they went back to the lion. Bow-wow heard the lion roar and Larvee ate him up."

She told stories of the wonderful doings of Bow-wow and Larvee almost constantly in the latter part of May and early June. Her thoughts seemed wholly taken up with these imaginary creatures and once again we thought her too absorbed in her fancies, much as she had been at the age of three and a half in her imaginary possessions. On the trip to Massachusetts, June 8th, 9th and 10th, all her conversation was of Bow-wow and Larvee. They were supposed to be dashing along beside us on a train of their own carrying the ducks and hens with them. They killed eagles, had E sew their wings on and then flew fifty miles at a time.

"Larvee splashed in the water and his wings flashed like lightnin'. He loves to go in the water. He's just a little curly lamb."

"Bow-wow goes to all the worlds he knows; finds whether they are safe or not." "The more Bow-wow fights, the stronger he gets." "He can just bark as loud as thunder." "Bow-wow thinks he'll live forever, but it's really Larvee who will."

This summer, just as the year before, her imagination be-

came less and less absorbing; Larvee and Bow-wow were relegated to the background as her life became full of more interesting realities. She told only six more stories in the next three months, their dates being June 14th, 20th, 21st and 26th, and July 5th and 6th. One was an account of some enormous collapsible toads that Bow-wow had "great times pushing down into a hole with his paw," while the theme of four of the others was magic transformations, apparently suggested by "Puss-in-Boots," which she had just heard for the first time.

"All of Bow-wow's and Larvee's time is taken up of killing."

Bow-wow let his children wear just the kind of colored socks they wanted and in various ways his practise was different from mine.

We heard nothing more of these animals until the middle of September when we were traveling west; then the subject was suggested by seeing some pictures I had drawn of them on our journey east. E wanted me to illustrate their adventures and when I asked what I should draw, she invented the following:

"Bow-wow and Larvee were swimming and a frog got a match and scratched it by mistake on a piece of wood and set the pool on fire. Bow-wow and Larvee just *rushed* away!"

The origin of this cycle of imagination is known; the Ducky-Daddles stories. She chose one character, the least important in my story, and adding to it a toy, made two great heroes of valor. The adventure element seems to be uppermost in these inventions, for we hear mostly of hunting and fighting and remarkable exploits of speed and skill. I never could detect much difference in character between Bow-wow and Larvee, although in general Bow-wow seemed to be the leader; yet in the stories told during the third period of imagination, Bow-wow is almost forgotten and Larvee comes to the fore, although mainly in the character of an ancestor.

Third Interval

Five Years to Five Years and Four Months. July, 1915, to November, 1915

This four months' interval between imaginative periods comprised two months in Massachusetts and two in Oklahoma. The stay in Massachusetts was full of social stimulus, besides the delight of outdoor life in the woods. E heard Browning's "Pied Piper" over and over again, "Hiawatha" often, and various fairy stories. In Oklahoma she had a five-year-old

neighbor girl for a playmate beside D, who was now three. Her chief cultural stimulus was Kipling's "Jungle Books," which she demanded over and over again.

Third Period of Imagination

housekins and larvee's babies

From Five Years and Four Months to Five Years and Seven Months. November, 1915, through January, 1916

The Environment

The environment was not different in any way from that of the preceding two months except for the cultural stimulus and the excitement of Christmas with its consequent new possessions. Doubting the wisdom of a constant diet of "Jungle Books," I introduced Curtin's "Hero-Tales of Ireland," which E liked for a change, but she soon wished to return to the "Jungle Books." She also heard "Hiawatha," miscellaneous poetry, Boyd Smith's "Story of Noah's Ark" and Lady Gregory's "Cuchulain of Muirthemne." She apparently pondered over what she had heard, for she asked questions constantly about the various books. Due to her insistent demands I made up many stories of the Ducky-Daddles series.

She was rather difficult to manage just before and at times during this imaginative period, probably because she did not have enough worthwhile occupation for her surplus energy.

On October 27th D began to tell us of the animals she had and in the next five days her possessions included a puppy, a big dog, a horse, bunnies, a cow, chickens, white mice and an automobile. This started E on November 2nd to telling us that she had lions and tigers. She let them out of their yard and they ran around and got their food which was chickens. "Chickens what have had roup"—a sad experience in our own hen establishment. "I kill them and leave them lying around." She also fed them cats that happened to come around. (Her enmity towards cats which is evident in many of her stories is due to her great love of birds.) Although D continued to tell us of her imaginary animals, E never mentioned hers again.

On November 12th she told a tale of Bow-wow, Larvee, Ducky-Daddles, our whole family, a lion and some snails who crossed the ocean to an island. The next day she dictated to me a long narrative, the first time she knew of my copying; it was a rather incoherent tale of various animals and her baby sister with a great deal of verse interspersed. This happened by a chance diversion from a defiant mood. Two days later she dictated some more verse—most of it nonsense—based on Blake and "The Jungle Books."

THE HOUSEKINS

On November 28th began the most important imaginations of this period—the accounts of the Housekins. They started as horrid little creatures that ate our food and pinched people. The next day their characters seemed to have changed; she drew a picture of a Housekin—it was something like a brownie with a pointed head—and told me the following:

"They just live in houses. The only thing they help about is telephoning. If you make a mistake they run and telephone. They're great climbers. They're good; they do some damage and do some good. The mother Housekin stays at home in the trees. They eat up the not good food in our house and give better food; that's how they do their living. They have very sharp nails. The Tree Housekins live in dead branches. Sometimes they steal away the English sparrows' nests. They eat the nests all up with the eggs or babies in it."

The Tree Housekins are the ones that pinch. They catch cats and swing them down. They give toys to children.

"The Tree Housekins curl up and wind around. Their shape is like a snake. The babies are like little tiny snakes. They have eggs like snakes. They have twenty-four little eggs or only one egg. The babies puff out fire when they see something and kill the young males of the English sparrows or the fathers and mothers."

From December 1st to 9th I read to her every day from "Cuchulain of Muirthemne." She was intensely interested and asked me all sorts of questions; it seemed to fill her mind as Bow-wow and Larvee had done six months before. She invented nothing during these nine days. Thinking "Cuchulain" a little taxing for her, perhaps because too difficult, I stopped reading it. In two days her creative imagination was in full force again.

On December 11th she told me that Housekins taught babies not to cry. They taught her baby sister not to have stomach aches; they would creep in and put a block on her head and put spells on it and afterwards in the night they would take it away.

Later in the day I asked her about the Housekins and she gave me a long account. There are Clock Housekins that make themselves as small as insects and come into houses and look at the clocks and tell the animals the time. "Why do the animals want to know the time?" I asked. "Then they hurry." (She herself could not tell time.) These Clock Housekins have stings in their tails. They step on cockroaches and kill them and eat them. This is how they earn their living; people pay them a penny a day. "What do they buy?"

I asked. "Oh, little clothes for themselves from mice." (This might have been suggested by Potter's "Tailor of Gloucester," although she had not heard it for many months.) They catch mice babies and train some of them to work for themselves and some for mice.

December 13th she told a good deal about Clockkins. They are round, larger than clocks, with four tails—two short and two long—that help them in swimming and climbing. They have no legs but just roll along. They have stings on their sides and around their tails. They live in shells that are too large for them until they grow up to them. They tie their four tails together to protect themselves from enemies when they go to sleep. Their enemies are lions and sometimes snakes try to wind around them but they get stung. They let toads come into their shells. (E is very fond of toads.) They have jewels in their tails and give them to people and children. This is magic. Sometimes they pretend they are dead so children can get their jewels and then their tails grow out again.

The next three days she told exciting stories about Housekins and illustrated them.

For ten days—just before and including Christmas—she told nothing of Housekins, yet she told two Larvee stories and dramatized—playing she was a mother toad with one thousand babies. On December 26th I asked about the Housekins and she said that young Housekins start out as eagles. The parents take stones, make them into the shape of eggs, hollow them out and put in wet cotton, fixing a little window over them of egg shell from a bird's broken egg. They have to wet the cotton every day, for dry cotton would hatch out a bad Housekin that would bother people. These eggs are left on the ground by trees. If animals eat them, they burst the animal in two. The little eagles look out of their windows and see whether the animals are bad.

December 30th was the last time she mentioned Housekins; she told a good deal about them, one item being that Clockins mend clothes for people. She invented a new kind—Horsekins—that have heads like Housekins, feet like horses and wings like eagles.

When I asked her fourteen months later whether she remembered about the Housekins, she had no recollection of them.

The Housekins are the most original of any of this child's inventions about which she gave a series of accounts; other creatures may have been even more astonishing but they were isolated fancies and quickly forgotten. Their habits and characters are unusual, but it is especially in their structure that

they are unique and have no prototypes in nature. They are the first example of what might be called "life histories," i. e., descriptions of habits with practically no attempt at adventures. Although she originally had these creatures bad, she changed them into nice little household helps, having them assist by telephoning, by supplying choice food, killing cockroaches, mending for people, charming away babies' stomachaches and giving toys and jewels to children. Her natural history bent is evident through the Treekin's dislike of the enemies of song birds—cats, snakes and English sparrows, by her elaborate description of the appearance of Clockkins and her ingenious scheme for the development of the Housekins. She must have visualized these creatures clearly to herself to have been so consistent in her descriptions of them from day to day.

LARVEE'S BABIES

The first week in January she told stories nearly every day and dramatized "Jungle Book" incidents. On January 4th she was drawing pictures and invented the "Dancing Gongins"—creatures with large bodies, tiny heads on long necks, waving arms and sizeable feet. The egg had a head and neck peeping out. "When they lay their eggs they sprout out like an ant and when they're bigger, they're caterpillars, then grasshoppers. Then they sprout into a kind of box and then they turn into Dancing Gongins. They have the best time in the snow. They always have snow where they live by Santa Claus.

And they dance and they prance,
And they dance and they prance,
All the day long and they have a great chance.
They dance in the snow and they dance every place."

The next day she told me how wonderful Larvee's babies were; they could leap up to the sky with the world on their backs; they would carry her up to the moon so she could catch it and bring it back to earth. (Apparently she considered it about a foot in diameter) The babies started out as specks of dust, then they grew to the size and shape of electric light switches, and they dance and prance and leap a hundred miles at one small jump. They also turn on the lights if they are out of order. Then they turn into beds, duck-ducks and various other things. Duck-ducks are a kind of animal that turn into eagles and carry off kings.

January 7th, she was feeling rather rampageous when going to bed, so to divert her I inquired about Larvee's babies. She said they change into little birds and cats eat them up and that kills them and kills the cats, too. However, they "are born

again into other families as specks of dust." This is the only way cats can be killed; they kill hundreds of cats.

The next day she told me of some paper rabbits that Larvee made for her, one of whom ran a thousand miles in a minute and shot English sparrows and knocked their nests down.

From now on the manifestations of imagination became fewer and fewer. She improvised songs in January and February, one of them beginning

"Larvee was dancing one day
As a dragon came along."

She told only a few isolated stories, one about lions on January 21st, another about bunnies on February 3rd and on March 6th, "Mole-flies," something she made out of plasticine that looked much like a tadpole. "They have fish's tails and bird's feet. They eat turtles that have died and poisonous snakes. The mole-flies and larvee-flies live in swarms in trees. They live in deserted birds' nests and eat the lice if there are any lice."

The Dancing Gongins, Larvee's Babies and the Mole Flies are further examples of life histories. Larvee's Babies killed cats and their rabbits killed English sparrows, while the Mole-flies were also useful to birds in a humble way. Both the Gongins and Larvee's Babies, besides the Housekins went through most wonderful changes as they grew from babyhood to maturity; the account of the Gongins suggests an entomological source, but perhaps "Puss-in-Boots," which she heard in the summer and which had an immediate effect on her stories at that time, is chiefly responsible.

Fourth Interval

Five Years and Seven Months to Six Years and Six Months. February, 1916, to December, 1916

This interval was longer than any that preceded it. From March to September was spent in Massachusetts where E's nature interests absorbed her more than ever before; she was outdoors most of the time wandering about in the woods, wading in the brook and catching water animals. She might have imagined to herself, but she declined to tell any stories, always demanding them from me, although she was often disappointed because my imagination was so halting. She said, "If I have children I will tell them Larvee stories till I die, and they will tell them to their children till they die." "Some of these stories will be new and some old." She heard a great deal of nature reading, Curtin's "Myths and Folk Tales

of the Russians," Macdonald's "Princess and the Goblin," "Uncle Remus," and other stories.

In the fall in Oklahoma she wanted to hear nothing but "Bird-Lore" for six weeks; then I read to her Curtin's "Hero-Tales of Ireland," Boutet de Monvel's "Joan of Arc," "Baron Munchausen," "Japanese Fairy Stories" and "The Wonderful Adventures of Nils." I taught her at home, letting her make up her own reading lessons; she told me the story of her pet robin and accounts of other birds, thus approaching the matter from a creative rather than a receptive point of view. She did not have many playmates except her two small sisters.

Six or seven times during this interval of eleven months she made up stories as explanations of the pictures she drew.

Fourth Period of Imagination

HER HOME

Six Years and Six Months. From December 20th, 1916, to January 20th, 1917

The Environment

The environment was not in any way changed from that of the preceding non-imaginative period except that during the first week of December we made a family of stuffed cloth cats for the baby, but these animals so entranced E and D that their chief occupation for the next two months was playing with them. Their play was imaginative and dramatic, E being the leader in it. Although most of the characters in E's stories are good, the main hero of these plays—"Tabitha Twichet,"—the mother cat was a decidedly bellicose, really bad creature. It might have been due to the play element; that fighting and struggle are dramatic, whereas a story may be just an account of life histories as most of E's later stories have been.

HER HOME

The imaginations that began about two weeks after the arrival of the cats and that continued simultaneously with them were stimulated by D as in October, 1915; but instead of being an isolated occurrence, they became a small series. D had been telling us all fall about her Home, where everything was perfect, and had been urging us on all occasions to come there. About December 20th E invented a rival Home.

She lived in a castle, had a husband and ten children who were looked after by Passenger Pigeons. The weather was always warm. There were no insects there so her birds ate grain. There were no diseases there. She had several lions

that carried her children on their backs. A statue of a monkey holding a flag stood on top of the castle to show that she (E) was Queen of the Animals.

Her Home was at the South Pole; in order to give it the delightful climate she wanted, she invented an extra sun as large as our house. Her old home was up near the real sun and it was terribly hot there. Still later she moved to a separate planet.

On January 6th she said that they had sent all the Passenger Pigeons off to the South Pole because they were so bad about eating their wheat. Now the "Pincushion Birds" cared for her babies; they made nests as large as our veranda in trees with trunks as large as our house that grew up to the sky, higher than the clouds. If the babies fell out of the nests they could fly into "Bag Birds'" nests. Bag Birds made nests all over the trees and ruined them sometimes; they went in flocks and picked up crumbs for food.

The next day as she was getting ready for bed, she was gargling her throat with shrieks and squeals, to which I objected. "I have to sing or I couldn't be Queen of the Animals. I'm not Queen of the Birds or Queen of the Reptiles." "The snakes at my home sing this way. They go into the woods early in the morning to stir up the birds." The Pincushion Birds and Bag Birds liked to stay in their beds and keep warm, but they were afraid the snakes might climb the trees, yet this was impossible, for they were "slipprier than glass."

On January 9th she made a picture of a "Tree Turtle;" I will quote part of her description.

"It has a long, curly, furry tail; sometimes it hurts you when it hits you with it. There are jaws on the end of the tail that can bite; they poison. All the rest of the turtle climbs. And also the little poisoning thing—that little spike—they stick into trees sometimes to help them climb."

"Once they did come to my home. We had terrible times getting away from them. They can rush fast. They can put their tails on their backs and poison anybody who might get on their backs."

"They are very beautiful if one can get one. Sometimes they are trained, but one has to cut off their tails so they won't sting. Sometimes they come in a great army, but that's very seldom. The way they catch things is to put their tails down on the water or up in the air; that's the way they get their prey.

"Turtle-Tortoise is the name of their land

"They don't like to get into water very much, only their tails. The usual length of their tails is as high as this room, but some unusual ones are as high as this house and their tails a mile long. There are lots of Dinosaurs there. Everybody who goes there gets tramped over or eaten. I never went there. The common cowbirds live over there. They build their nests on elks' and deer horns; they specially live on elks because our elks have horns right out on the backs of their heads." "People don't like to ride on the elks because they are afraid the cowbirds will peck them. It's a little scary for the cowbirds when the elks have fights—they have to hop out."

"The Dinosaurs are about a mile big and a mile high. You can't see their necks—they are so high."

Although E originally said she had ten children, there were only three of whom we heard any details. One was a baby named Joan; monkeys cared for her and she drank deer's milk. The two eldest children were "Harper, Queen of the Birds," who sent Passenger Pigeons hither and yon, and "Eagle Terror," a great hero. After the middle of January she mentioned her family or home only occasionally; usually it was to tell of their superiority to D's family when the latter remarked on the marvels of her relatives. For instance, in March, D said, "My husband is as strong as an ancestor." E boasted, "My husband is so strong he can lift the world with one finger." "How large is he?" I asked. "As large as Father. He got strong by taking exercise."

This last imaginative period was brief and not so absorbing as the others, yet there was considerable originality about it. She attempted to describe a paradise, at first with the idea of excelling her sister's Utopia; the general subject was thus determined and various details were suggested for she had to show her superior wisdom and experience by exaggeration of or contrast to what D told. Her descriptions as a whole had little relation to D's imaginations; once E was started she simply followed her fancy in inventing curious beasts and birds. Her ten children were far less interesting to her than her natural history; the helpful Bag and Pincushion Birds that were so disturbed by the frightful "singing" of the snakes, the venomous Tree Turtles, the extraordinary elks and cowbirds, the enormous Dinosaurs that tramped upon unwary travelers and various other creatures which I have had to omit for lack of space.

The Fifth Interval

Six Years and Seven Months to Eight Years and Six Months. February, 1917, to December, 1918

This interval was the longest of all—nearly two years. E had two short school experiences of one month in June, 1917, and two months in the fall; otherwise her environment has been much the same as before. She has developed into a great reader.

She told only fifteen stories during the twenty-two months; these were distributed as follows: one in April, 1917, two in September, one in November, one in December, three in January, 1918, two in February, two in March, one in April, one in May and one in August. There is a slight indication of January's stimulating effect, especially as at this same time she composed three "poems," while during the other twenty-one months she only improvised two songs and made up two rhymes. There is more of adventure in these stories than in the previous ones.

Fifth Period of Imagination

HER STARS

Eight Years; Six, Seven and Eight Months. December, 1918, through February, 1919

This last imaginative series was stimulated as two years before by D, who had invented some wonderful countries; in E's own words she had to tell about her "wonderfuller lands." I carefully cherished the first indications of imagination, asking questions, suggesting that she illustrate some of her tales and getting up a contest for us all to make little books of our lands, I myself racking my brains to remember some fantastic countries I had thought up as a child to while away the hours of church. I also got a blank book telling E she might make pictures of her lands and I would write down her descriptions. This was started but never finished. Whatever influence this encouragement had, her imagination has flourished for nearly three months and is still continuing. The children's greatest interest in life has been for several months exciting play with their toys and dilapidated dolls, much as it was in December, 1916.

The subject of this series, which started December 10th, is something like that of two years previous—imaginary countries, but this time there are many more varieties. She tells of the Moon, Mars, her own special Star, a Cattle Star, Bird Star, Number Star, Letter Star, Glasses Star, Flower Star,

Wish Land, Land of the Hundred Suns, Land with No Gravity and many others. I have space to mention only a very few items that she has told.

At her own Star she has the following kinds of birds: Doily Birds, Lace Birds, Turn Over Pigeons, Gold Birds, String Birds, Rock Bound, Oogloo-Pants, Long Bills and others. In explaining a picture she was making of the Long Bills, she said:

"The mate sits and listens and cries with joy to think her husband can pipe so sweetly. Sometimes the birds get up from their nests to sing and almost let their eggs get cold. The whales come up to hear them sing." "The Father Long Bill doesn't do much but sing, because his babies are very wakeful. Sometimes he has to sing all night to get them to sleep. Just about as soon as he stops they wake up and squawk."

"Everything flies at my land, even nests."

At Mars there are Monkey People with tails as long as our dining room; these tails are used to hold extra shovels when they dig canals. Rats as large as chairs infest the canals; their tails are electric lights that are lighted at night. They bite the tails of the Monkey People. E left some of her Bagalog Animals to eat the rats; they have lots of tails like fly whackers, when flies settle on them they kill them with their tails.

The lions on her own Star sometimes leap over to the Cattle Star and the alarmed cattle rush to the "Paste Pool" in the middle of their woods, stick in their hoofs, get them sticky and then climb trees, but the lions can't climb. However, there are not enough trees to go around so the rest of the cattle hurry to the "Knife Pool" that puts sharp knives on their hoofs and then they rush at the lions and cut them in their faces.

E's greatest affliction in life is her number work. "In the Number Star there are lots of Numbers. They sit down on papers and ask me how many's what." "What happens if you don't answer?" I asked. "They pinch me. I don't like to pick them up—they're sort of buggy things. My animals eat up the Numbers. Last night when I wanted to get some bats from the Number Star to introduce into my country to eat the mosquitoes (there are a few mosquitoes there), one of my animals got behind me—eating up the 3's and 4's—and I got a terrible pinch by those bad 3's." "My animals tried to eat a great big thousand and they got such choky times."

"What happens if you do answer?" I asked.

"Then they go dancing about. Sometimes they give me a little bit of candy." "You don't dare lie down in the grass very much for fear of the 4's; they sit in the grass and prick."

The 1's and 4's prick her when she sits down on them, the 6's, 3's, 9's and 2's pinch and the 7's just dance and laugh. They sing "Pinch her, pinch her," although they can't do it themselves. Zeroes sometimes help her by telling her the answers.

"It's a very bad star." "I wouldn't ever go there if it wasn't for the bats and beautiful birds."

E began this series December 10th and told something every day until the 19th; then she said nothing more till the 31st, when I mentioned the subject. She told about her lands practically every day in January and on an average every other day in February, the accounts in January being longer and more detailed in general than the later ones. Her imagination was most intense in January, but there still seems to be much impetus left at the date of writing—February 28th.

In these lands E has no relatives nor indeed are there any people but Indians. The general character of her tales is description of the appearance of each strange land, of its fauna and flora and an account of the habits of particular creatures, whether they be fish, flesh, fowl, or, often enough, some extraordinary invention, such as Canpics, Glass Pip-pips, Kath-apapamamas, Kick-kicks, and so forth.

Discussion

Many children apear to have difficulty in distinguishing their fancies from reality. This does not seem to have been the case with E; she is a clear thinker and apparently has always known that her stories were merely made up with the possible exception of her imaginary possessions at the age of three and a half. All her other tales have been such impossible things that they could not be confused with reality; it is probably when a child's imaginations are near the truth that confusion is liable to occur.

All of these imaginations are, of course, based on her experience and differentiated from real life by the factors of new combinations, contrast and exaggeration.

The babies, the imaginary possessions and the first kind of stories are more or less close reproductions of reality. There is considerable exaggeration in the later exploits of the Babies. By new combinations, i. e., by substituting animals for herself she changed a recital of her own doings into the first kind of story. New combinations of stories heard produced the second kind of story.

The main series of imaginations may be tabulated as follows:

Age	Subject	Kind	Characters
3½	Babies	Imaginary Companions.	People.
3½	Haneater	Life History, Adventures.	Imaginary Bird.
3½ to 4	Stories	a. Her own Experiences with Animals as Actors.	Animals.
		b. New Combinations of Stories Heard.	Animals and People from Stories.
5	Bow-wow and Larvee	Life Histories, Adventures.	Imaginary Animals.
5½	Housekins	Life Histories.	Imaginary Creatures neither People nor Animals.
6½	Her Home	Life Histories.	Imaginary Animals, Birds and People.
8½	Her Stars	Life Histories.	Imaginary Animals, Birds and Creatures.

The Haneater, the birds and animals at her Home and her Stars and of the various "life history" stories told at intervals from the age of five, are, of course, based on what she knows of real birds and animals but made decidedly different by the use of contrast and exaggeration. Bow-wow and Larvee come partly in the same class, especially the stories of Larvee's Babies.

The Housekins and some of the inhabitants of her Stars are the most original of all the imaginations. It is more difficult to classify them than the others, but still they are new combinations of things that she knows, treated by the methods of contrast and exaggeration.

There is little of the element of adventure in most of her tales. The second kind of story, the accounts of Larvee and Bow-wow and the isolated stories told from the age of six and a half to seven and a half show it to some extent. The greater importance of adventure in the Bow-wow and Larvee tales might have been partly due to the fact that sometimes, especially at first, she played with the toy Larvee and Bow-wow and thus might have got into a habit of having them do things which persisted even when she was merely telling about them. Her play at the present time is full of action, her toys experiencing a bewildering succession of astonishing adventures.

As a rule she has not liked to have the characters in her

stories bad—although it happens often enough in her play—sometimes she began them that way and then, upon developing an interest in them, changed them. This was true of the Housekins and of two of her latest tales, and also of an unpleasant character in one of my stories—vainly intended to point a moral—whom she transformed into a nice person.

People are unimportant in her tales; they hardly come in at all after the very beginning, when she had her imaginary companions, the Babies. E is not a sociable child, but she is fond of babies. Her love of nature is shown both by the preponderance of bird and animal characters in her stories and also from the general nature of most of them, for they are largely descriptions of the habits of imaginary birds, animals or other creatures.

In one set of imaginations—the stories told from three and a half to four—the stories are directly traceable to their sources, practically the only change being new combinations. In none other of her imaginations is it possible to trace more than small incidents here and there to definite sources.

The starting point of many individual stories is known. After E was five a picture that she happened to draw would often suggest a story to her, yet a picture never started a series of imaginations.

The immediate stimuli to three of her series of imaginations are known; the tales I told of Ducky Daddles started her on the Bow-wow and Larvee series, D's boasting of her home in November, 1916, stimulated E to imagine a rival home, and much the same thing was repeated two years later. Yet a similar stimulus in October, 1915—D's farm—evoked only a single story from E. It seemed to depend not so much on stimuli, judging from the countless numbers that received no response, as on the creative mood of the child..

PERIODICITY OF HER CREATIVE MOODS

One of the most interesting phases of this child's life of imagination has been its marked periodicity. Most of the time she has seemed almost devoid of imagination; no amount of encouragement would call forth the glimmer of a story; at other times she has been full to overflowing with creative imagination, some of her fancies crowding most other thoughts and interests from her mind.

The periods of imagination and the intervals between them are here summarized in relation to the season and also to E's place of residence.

TIMES OF IMAGINATION

Age in Years	Period or Interval	Time of Year	Height of Imagination	Duration	Place
$3\frac{5}{12}$ *to* 4	*1st Period*	*Nov. to June*	*Dec. & May*	7 *mos.*	*Okla.*
4 to $4\frac{10}{12}$	2nd Interval	July to April		10 mos.	Mass. & Okla.
$4\frac{10}{12}$ *to* 5	*2nd Period*	*May & June*	*May*	2 *mos.*	*Okla.*
5 to $5\frac{4}{12}$	3rd Interval	July to Nov.		4 mos.	Mass. & Okla.
$5\frac{4}{12}$ *to* $5\frac{7}{12}$	*3rd Period*	*Nov. to Jan.*	*Dec.*	3 *mos.*	*Okla.*
$5\frac{7}{12}$ to $6\frac{6}{12}$	4th Interval	Feb. to Dec.		11 mos.	Mass. & Okla.
$6\frac{6}{12}$	*4th Period*	*Dec. & Jan.*	*Jan.*	1 *mo.*	*Okla.*
$6\frac{7}{12}$ to $8\frac{4}{12}$	5th Interval	Feb. to Dec.		22 mos.	Mass. & Okla.
$8\frac{5}{12}$ *to* $8\frac{8}{12}$	*5th Period*	*Dec. to Feb.*	*Dec. & Jan.*	3 *mos.*	*Okla.*

The unimaginative periods have been much greater in extent than the imaginative. From the age of three and a half to eight and a half there have been sixteen imaginative months and forty-seven unimaginative, three times as many of the latter. If we count from the age of two and a half, there have been fifty-nine unimaginative months or nearly four times as many as the imaginative.

As to place, her visits in Massachusetts all fall within the intervals between imaginative periods. The Babies, the Han-eater and the Housekins were begun in late November, while the accounts of her Home and her Stars were started in December. The first three series reached their climax in December and the last two in early January. Bow-wow and Larvee were begun in May and reached their climax in late May and early June, as did the first stories. Between the ages of three and a half and eight and a half, four Decembers and two Junes have been highly imaginative, while two Decembers (when she was four and a half and seven and a half) and three Junes (when she was six, seven and eight) were unimaginative. She went to Massachusetts in early spring before she was six and before she was eight, and no series of imaginations were ever started by her in Massachusetts.

What is the explanation of this striking seasonal appearance of her imaginations? Only twice did November or December miss stimulating her creative powers, and only once a May spent in Oklahoma. She has never been imaginative in late summer and early fall, and only slightly so in late winter and early spring.

Huntington[3] in "Civilization and Climate" found that the energy of factory operatives in Connecticut was "very low in January, moderately low in July, high in June and very high in November." p. 64. He bases upon extended data the con-

[3] Huntington, E. "Civilization and Climate." 1915. *New Haven*, 333p.

clusion that "Both physical and mental activity reach pronounced maxima in the spring and fall, with minima in midwinter and midsummer." p. 82.

This child's periods of imagination correspond almost exactly with Huntington's discoveries of the effect of climate; they tend to come a little later in the fall and a little earlier in the spring than his periods of maximum energy, which would be natural in Oklahoma with a climate warmer than New England.

FAVORABLE AND UNFAVORABLE INFLUENCES

What conditions are conducive to creative moods and what are unfavorable to them? We have found a little light on the subject so far as this child is concerned.

Interest in real life did not encourage her imagination; her imaginative periods always began when there was little social stimulus and no particularly exciting things to do; and three times they were brought to a sudden end when conditions were changed in this respect; imaginary possessions and the Han-eater were stopped by the first Montessori school, while her early stories and Bow-wow and Larvee came to their ends when she went to Massachusetts two different summers. Twice Christmas made a break in her periods of imagination; she told stories about the Housekins from December 11th to 16th and began again the 26th; she told about her Stars from December 10th to 19th and began again the 31st. Although her Home was started just before Christmas she told little about it until January 6th. This inhibition of imagination when real life is especially interesting is shown also in the common observation that a child with brothers and sisters near his own age is less apt to live in a world of make-believe than an only child.

As to cultural stimulus there was little of it before the first period of imagination and the same was true during the long unimaginative interval a year later, while before all the other imaginative periods and during most of the intervals she has heard a great many stories and poems. Thus there seemed to be no correlation between cultural stimulus and imagination except in one case, when a too absorbing story—Lady Gregory's "Cuchulain"—appeared to inhibit imagination.

E has not been influenced by the criticism of an older child, but she has been decidedly stimulated by emulation when she invented her Home and her Stars as rivals to D's. When she based the Bow-wow and Larvee series on my stories, suggestion was probably the only factor, but in the stories of her Home and Stars both suggestion and emulation were operative.

It would appear that climate had a definite effect on the mental activities of this child; as the weather grew cooler in the late fall, and again became warmer in the late spring, her creative powers were stimulated. She would seem to be especially sensitive to the effects of seasonal changes, for I do not presume we would find this same periodicity in most children; D has not shown it.

What has brought her creative moods to an end? Three times they were apparently stopped by an increase in the interest of real life, while twice—the Housekins and the Home—they gradually became less and less absorbing, although no special change in environment took place. They all came to a close in the seasons when climatic energy is at its lowest—midsummer and midwinter. While increase of social stimulus and the climatic factor might have been influential, on the other hand, this decline might simply have been due to the fact that the interest in imagination had run its course and she was ready to take up some new phase of mental activity.

That the creative moods of this child have depended to some extent on surplus energy is shown both positively and negatively; positively from the correspondence with the times of greatest climatic energy, and from the fact that the third period of imagination was noticeably a time of excess of animal spirits—threatened trouble being twice diverted into creative channels; and negatively from the inhibition of imagination by an increased interest in real life and also by a difficult cultural stimulus.

Of course this does not mean that a dull life will result in a brilliant imagination; there have been plenty of times when this child's energies were not fully occupied and yet she showed not a spark of romantic invention. But it does point to what we already know in adult life that overstimulation does not conduce to creativity; real life and companions are of course essential to a well-balanced existence, yet one also needs solitude and time to think one's own thoughts. "In the morning, solitude," said Pythagoras. "By all means give the youth solitude," says Emerson, "that nature may speak to his imagination as it never does in company."

What shall be our attitude towards this whole matter of childish imagination? In the first place, we must have the solid rock of truth as the foundation of thought. A child should never be deceived. He should be told fairy stories as fairy stories. We do not need to be in too great a hurry to instruct him in astronomy and science; let him wonder a little and ponder over nature's phenomena without their being made into tasks and lessons for him while he is little. But be sure

a child has reality to start on so that his thoughts will not get into a hopeless muddle.

How can we encourage imagination in a child that shows little or none of it? The first, and in many cases the really difficult task is to get it started, and the second to keep it going. The factors of suggestion and emulation are probably useful in the first problem and that of sympathy in the second.

Under suggestion would come the indirect stimulus of a rich cultural environment—the hearing of the best of the fairy stories, myths and legends, and the seeing of fine pictures. Yet one should guard against the child's receiving so many of other people's ideas that he has scant room left for his own. The parent can give direct suggestions by telling what she or he used to imagine as a child, what the child himself invented a year or so before or by instituting the custom of taking turns in telling stories.

In order to make use of emulation as a motive, other children are necessary. Several might be encouraged to make up stories chiefly for each other's entertainment, rather than the edification of the grown-up. The illustrating of his fancies by each child is another method of multiplying and clarifying ideas.

After a child's inventive powers have been launched on their way, the attitude of the parents should be sympathetic. His tales should be received with interest and tactful admiration—enough, yet not too much lest the child become conceited and lose spontaneity. Of course if a child's small stories or versifications meet with indifference or laughter, he will be discouraged, perhaps entirely, perhaps only driven to keeping his thoughts to himself.

Undoubtedly some children are too absorbed in make-believe. In such cases there should be a redirection of their interests, a new emphasis on the attractions of real life. This may be accomplished in many ways; by companions, pets, a new interest or wholesome change of some kind.

A child's imaginations are akin to poetry; they increase the joy of the world. Their originality and creative power contain a spark of genius and should be cherished accordingly. Unfortunately we know almost nothing of the underlying factors that govern creativity or of how to utilize them. It is only one evidence of our profound ignorance of how really to educate our children and to develop their possibilities.

BOOK REVIEW

The Place of The Idea of Death and Its Moral Effects in Education (La Muerte y su Sentido Moral en le Educación). By FARIA DE VASCONCELLOS. 1918 Porcel, Sucre, Bolivia. Translated by PHYLLIS BLANCHARD, Clark University.

The subject of my discourse is the problem of death as a factor in education. I desire to call the reader's attention to some wholesome ideas which this theme suggests to me, and to bring a note of vigor and forcefulness into a problem generally regarded with terror and despair.

I believe that death can be contemplated with a calm optimism. It is not necessary that when the idea of death comes into one's existence it should disturb the heart and mind to such a degree as it ordinarily does.

I am not going to analyze the different chemical and physical changes which constitute the process of death.

I am not going to analyze the process of necrosis through atrophy or degeneration. I am not going to discuss Metchnikoff's theory of old age.

This is not a scientific paper. To be sure death is a fit subject for science. But it is not merely that.

The idea of death involves something more than death. Science is not a code of absolute truths. Science is no more, can be no more, than a mass of investigatory methods.

There is something beyond biological, physical and chemical analysis. There is the moral aspect, the spiritual significance which we attach to death. It is here that we come to our inclination and longing for the infinite.

Analyze a tear chemically: a drop of salt water. That is quite correct, but that is not all.

In it there is all the imponderability of emotion, of sadness, of grief, of bitterness. It can not be called merely a chemical process, it is so much more a spiritual wounding of the heart.

It is the same with death.

It is necessary to turn away from the material aspect to the moral significance and spiritual worth which are manifested in the thought of death.

Education cannot neglect this problem.

Not to speak to youth of death is a crime; because not to prepare youth for death is fundamentally not to prepare it for life.

But to speak of a death swathéd in superstitious fancies, to implant in youth a mortal terror, to poison its lightheartedness with fear, to fill its imagination with dread and despair is no less criminal than sheer neglect.

The two things to be avoided are lack of preparation and wrong preparation.

A man is not a man when he knows only how to live, but much more when he knows how to die.

If life is a duty, death is even more one.

To die in dignity, struggling, believing, suffering, realizing one's ideal or seeking for it, is to live doubly.

The youth or man who is incapable of looking death in the face, is a cowed personality; such a man or youth does not live, he is dead even while he is living.

But to one who understands that life is struggle, action, abnegation, to whom resolutions come swiftly, to whom all sacrifices, even his own, are part of life, to him life is vital indeed.

Death is the terror, the cruel enigma of egoists, of those who live for themselves, of those who know not how to consecrate themselves to the welfare of others, of those who are not quite able to give themselves completely. Such people look at it with anguish, just as the avaricious miser lives in dread of the robber.

But those for whom life is more than passing and transitory, they stand alert and ready for death.

Death is the hope of slaves, of weak beings without energy, of all those to whom life is simply dragging out their existence, of all who are without aspirations and ideals, and in whom life approximates a purely animal existence, of those whose souls are no more than the shadow of real souls.

But for those whose spirits are more than the echo of others, for those who climb to the heights, for those who possess a clear consciousness of the meaning of their own life, for those who have a sanguine ideal of life, death has no terrors. And if they do not desire death, neither do they shun it.

For those who hear deep within their souls the call of idealism, death is not annihilation. It is a means of creating an example for others who shall come after them. The history of mankind is the history of those who have died for an ideal, and not of those who have obstinately clung to life.

Death is inevitable, it is a necessary concomitant of life. Without it, renewal of the racial stock would be impossible. Therefore we can formulate the pedagogical axiom that we must always teach the child and youth to accept this inevitable end with all their being.

High morality does not consist of vigor and force alone, it embraces also acceptance and resignation.

Or, better, morality is an heroic fighting strength, united with resignation to the result of the combat.

Moreover, to be resigned to the inevitable, to accept it, to bow before fate, bears a more heroic semblance, betokens a greater soul, than agitated and futile gestures of violent imprecation, of hopeless struggle.

To train the child and youth in the practice of this moral stoicism, this courageous resignation, to teach him to accept with calmness and tranquillity, those things which are necessary and inevitable, is to give him the best preparation for life. And of all necessary and inevitable things, the greatest is death! And this applies not only to actual dying of the entire individual, but of that series of deaths of the component parts of a personality which are involved in the process of adjustment to the realities of life.

Who will deny that there is this series of deaths before death of the whole being comes? And how many of these smaller deaths there are! Some of these impose harsh sacrifices, cruel penalties, grievous renunciations.

They are real men who can meet these littler deaths with resignation and patience, or can use them to increase their own moral strength. How many can apply the same rules to themselves as to others? How many can adhere to their decisions, and not yield to other impulses?

How many men, who cling obstinately to their beliefs in life, will change to others at the approach of death? How many artists, thinkers, business men persist in their faith and do not lose spirit at the sight of death! How many cannot resign themselves to relinquishing their power, to renouncing the possessions which belong to them! How many are reluctant to pass on into other hands the torch of life which they bear!

How tragic is the contest of the dead with the living! It is necessary to know how to die.

But there is something further,—if death is sure, the hour is uncertain. It comes when least expected. Hence it follows that one must always be ready for death, must always have a clear conscience. It is necessary, too, to work with energy and perseverance all the time to fulfil our mission upon earth, because to-morrow may be too late. How many idle hands leave for to-morrow what they could be doing to-day!

So short is the time for all of us, that the condition is imposed not to lose any of it, or to use it wrongly. How many who might be doing some very useful work — death surprises in the midst of indecision, of vacillation, of empty pleasures in neglect of their duties. To desire strongly is to desire all the time, with no interruptions. To live fully is to put every hour of our existence at the service of the ideal which is the dynamic force of our life. To live is to advance unwaveringly, with firm step, toward the goal which we have set for ourselves.

Life cannot be an improvisation, because the hour of death is uncertain. We must always be ready. We must realize that each hour may be the last. At any moment, the life which pulses in us may cease, to animate us no more!

We must admit all these things without dismay, but with a firm and calm decisiveness. To-day may bring death to me,—but whenever it comes it cannot surprise me! And this ideal of conduct can only be achieved if every hour, every moment, finds us at our appointed task.

The death which surprises us at our work, illumines our life, and such a death is the acme of life. It is necessary to know how to live, in order to know how to die. And to die alone, without any hope falls only to the lot of those who have lived purposelessly.

To many there is something painful about the idea of death. If individually they are ready for it, prepared to accept it as inevitable with all calmness, they suffer acutely and despairingly when it comes to those who are near and dear to them. Their pain and unhappiness, their real bitterness, is deep. And of all the sorrows which death suggests, this is the greatest and most unbearable.

Something can be done to alleviate all this, however. Education, by training the individual to have a sane conception of death and of the dead, can accomplish a great deal for this.

No less suggestive is a recent book by Maeterlinck, "The Ruins of War." There is a chapter entitled "The Life of the Dead." One day, the author visited a widow who had lost her only son in the battle of Argonne. His widow, almost impoverished, with their child, their pride and joy, had disappeared; there was no reason to believe them living. Maeterlinck, who had expected to find himself in the presence of one grieving without hope, nursing a sense of injury and bitterness, says:

"In her eyes there were no tears. She smiled as do those who are filled with a happiness which nothing can mar. To-day we know there is no death. It has been demonstrated that those who have fallen

were never more alive than now. They are not forgotten, love has surrounded their sepulchre and has transfigured it creating for them a life more beautiful, more ardent, and of more far-reaching influence, which nothing can ever destroy. To lament for them would be a disgrace to the mothers, and so they do not weep, but smile in a silence which no one understands."

In the presence of such mothers, who can doubt that the dead still live? Of what avail is cold reason? Whom shall we follow,—those who believe that the dead are dead forever, or those who feel that somewhere, somehow, they are still alive? The dead whom we love do not die; they live on in us.

It is reasonable to decide, with Maeterlinck, that there is only a superficial difference between the living and the dead. There is the ever-present memory, living in our heart, which enables us to prolong the life of our beloved dead. There is a profound truth in Maeterlinck's story. Since those who die live on in us, we may learn to think of them without sadness, without despair, but with a happy and sincere affection.

A sane cult of the dead will not sap the vitality of those left behind, on the contrary it will encourage them, and nerve them for greater effort. Death removes from the loved ones all the defects and failings which they possessed. They come to have for us an idealized personality, to be an incentive to worthiness in our own life. Such a cult of the dead may well be prolonged. It would regenerate us, and incite us to live life fully in the present.

With this cult of the dead, we can illumine the future, we can see it more clearly, and prepare for it better, because the memory and example of their lives, thus purified, will be a stimulus and a lesson to us. We shall regard the dead with tranquillity, we shall live with them, still, and cultivate their memory in peace and confidence. To quote Maeterlinck once more:

"The material presence is not everything, and we can let it go from us without despair. We do not lament for those who live, in countries where we cannot yet go, because we know upon what our going to meet them depends. Why should it be otherwise in the case of death? We know that they are only in that region where sometime we too shall go."

Thus we conclude, by affirming that a sane, well-balanced man, who lives a physical life conforming to the rules of hygiene, who has a firm morality in his heart, who is capable of struggle, of sacrifice for an ideal, who knows the meaning and value of life, who thinks clearly, and in accord with scientific knowledge, is the man who lives forcefully, loves life intensely, and at the same time does not fear and shun death.

The conception of death depends upon the spiritual worth of our life. If our life is haunted by the spectre of death, our energy is drained in the contemplation of these gloomy phantoms which destroy our strength for action and weaken the decisive character.

To live sanely and wholesomely, means to look at death with no fear. Too many men die a thousand deaths while yet living through dread of death.

For a sound and healthful education, for the cultivation of an ideal of action and of acceptance of reality, we must be taught to live life with a creative, optimistic spirit, and we shall be able to live thus only as we can understand and regard the idea of death with calmness and tranquillity.

BOOK NOTES

The Distribution and Relation of Educational Abilities. By CYRIL BURT. London, Darling, 1917. 93 p.

This is an interesting and comprehensive report submitted to the London County Council in February, 1917. It is based on very elaborate statistical data which are abundantly illustrated by charts and drafts, and which give altogether a very valuable survey of a single representative borough, by means of teachers' estimates, checked by experimental tests. The conclusion is reached that the educational attainments of a "defective" correspond, on an average, to those of a "normal" just over half his age. The total number of "backward" children in the senior departments of the borough was placed at two thousand, or about ten per cent. It appears that the highest possible limit for candidates for the statutory examination shows a retardation of at least one quarter of the age.

Scholastic achievements appear to be determined by mental factors of two kinds: (1) General and (2) Specific Educational Abilities. Allowing for the influence of the former, the school subjects tested fall into four main groups, apparently dependent on four specific abilities,—Arithmetic, Manual, Linguistic, and Literary.

The Child's Unconscious Mind. By WILFRID LAY. N. Y., Dodd, Mead and Co., 1919. 329 p.

This book treats of the relations of psychoanalysis to education, and is addressed to parents and teachers by the author of "Man's Unconscious Conflict."

It first describes The Unconscious Factor, then takes up the Interplay of Conscious and Unconscious, Partial Trends, Mechanisms, The Aim of Education, Resistance and Transference, and Emotion. The last chapter is entitled, "Conclusion. Medical Origin."

This is the third attempt in English to introduce psychoanalysis into the general field of Education, and the author is well qualified for his task, having been for some time an experienced teacher and especially a student of the Freudian literature. In these days when the unconscious is coming into the foreground in so many ways, and especially as this line of psychology gives us a new vantage ground for studying such problems as emotion and transfer, we believe this book is the herald of many others that will follow, and that it is most timely and wholesome and worthy of the careful consideration of every parent and teacher.

Education For Character. By FRANK C. SHARP. Indianapolis, Bobbs-Merrill Co., 1917. 453 p.

This book grew out of lectures on moral education and treats of it in the school in general. The book is divided into four parts. In the first, The Influence of Personality, is discussed the personality of the teacher as teacher and as friend, and the tone of the school. Part II, Moral Training, includes the discipline of the school, pupil government, mutual aid in class work, the service of the school, moral training through the extra-curricular activities of the school, direct

training in citizenship, and the nature and conditions of effective moral training. In Part III, which deals with the subject of Moral Instruction, the author takes up the aims of this instruction, training in moral thoughtfulness, instruction through the existing curriculum and biography, and the systematic study of the conduct of life as to methods and results. Part IV deals with the moral education in the home. The book is designed as a textbook, and the last fifty pages are devoted to exercises.

Mental Hygiene of Childhood. By WILLIAM A. WHITE. (With an introduction by H. ADDINGTON BRUCE.) Boston, Little, Brown and Co., 1919. 193 p.

This book does not attempt to be an exhaustive account of the psychology of childhood but only an examination from a new point of view, viz., that of psychoanalysis. It assumes that even the infant has the germs of sexuality. It discusses the fundamental instincts, the development of a child and its stages, the family situation, the problems and punishments of childhood, repression, play, the relation to parents, the historical background of the problem, and conclusions.

Experimental Education. By ROBERT R. RUSK. N. Y., Longmans, Green and Co., 1919. 346 p.

This book discusses the general development of the child — physical and mental — and special powers like attention, sense perception, apperception, memory, association, imagination, thinking, reasoning, and speech. This takes the first one hundred and thirty pages. Then come the chapters on the aesthetic and ethical development of the child; individual differences; endowment; the economy and technique of learning; conditions affecting mental work; psychology and pedagogy of school topics, to each of which a special chapter is given, viz.: reading, handwriting, orthography, arithmetic, and other subjects.

The American Language. By H. L. MENCKEN. N. Y., Knopf, 1919. 374 p.

The sub-title of this book is, "A Preliminary Inquiry into the Development of English in the United States." The author is an editor and critic, whose task it was for many years to read many papers. In this way he came to realize the defects of our language.

The author begins with colonial days and considers the source of early Americanisms, new words of English material, changed meanings, and colonial pronunciation. Under the heading "The Period of Growth" he discusses the language in the making, the expanding vocabulary, and loan-words. He then contrasts American and English of today with regard to vocabulary, usage, honorifics, and euphemisms and forbidden words. He treats of tendencies in American, the common speech and the ways of grammarians, differences in spelling, taking up the influence of Webster and the subject of simplified spelling, and, finally, proper names in this country. In the chapter "Miscellanea" he discusses proverbs and platitudes, and the future of the language. It is a concrete book of very interesting details, and it ought to be of special interest to teachers.

The Winston Simplified Dictionary. Edited by WILLIAM D. LEWIS and EDGAR A. SINGER. Phil., Winston Co., 1919. 820 p.

This seems to the writer of this review to be an excellent and handy work. Little space is given to margins, the words defined are printed in clear-faced type, the definitions are brief and concise, and there are many illustrations, a few of them full-page. It is difficult to see how more matter could be placed in any smaller space. There are a number of interesting and valuable appendices.

First Lessons in Business. By J. A. BEXELL. Philadelphia, Lippincott, 1919. 174 p. (Thrift Text Series).

This book is divided into forty sections, discussing such traits as honesty, industry, promptness, personality, enthusiasm, initiative; also thrift, saving, money, waste, success, boys' and girls' clubs, the newsboy's cash book, the business office, coöperation, partnership, what a savings bank is and how it is managed, household budget, etc.